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Report of the Comptroller and Auditor General of India

for the year ended March 2007

Union Government (Civil)
Autonomous Bodies
Performance Audit
No. PA 3 of 2008

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OVERVIEW

This Report contains results of performance audit of (i) Working of the Coffee Board (ii) Functioning of the Rubber Board (iii) Indira Gandhi National Open University (iv) Integrated Vessel & Cargo Information and Billing System (IVCIBS) and Financial Management System (FMS) in the Cochin Port Trust and (v) Construction and allotment of houses by Delhi Development Authority.

MINISTRY OF COMMERCE AND INDUSTRY

Coffee Board

Working of the Coffee Board

The Coffee Board constituted under the Coffee Act, 1942 was vested with the power of marketing the entire coffee produced in India. With total liberalization of the coffee marketing in 1995-96, the Board's focus, has been on areas like research, extension, development, quality management, market promotion, etc. The actual production of coffee in the country fell short of the targeted production by 14 to 31 *per cent* during X Plan period. The performance audit conducted revealed slippages in implementation of the schemes. No new varieties of coffee were released and the Board continued to rely on the main varieties developed before 1980 which were prone to pest infestation. The Board could not develop any forecasting models on weather parameters *versus* yield/outbreak of pests. The Board was yet to recommend any effective effluent treatment mechanism to combat water pollution. The productivity of coffee in North Eastern Regions and the non traditional areas of Andhra Pradesh and Orissa was poor compared to national average. The targets for exports of Indian coffee also remained unachieved; exports were below the base level of 2.4 lakh tonnes during most part of the Plan period. The exports to Belgium, the Russian Federation and Germany showed declining trend.

(Paragraph 1)

Rubber Board

Functioning of the Rubber Board

The Rubber Board was constituted by Government of India under the Rubber Act, 1947 and functioned mainly to promote the development of rubber industry by undertaking scientific research, imparting training in various aspects of rubber cultivation and giving technical advice to rubber growers. A performance audit covering the functioning of the board during the period 2002 to 2007 revealed that certain areas of the functioning need to be addressed for sustaining the growth momentum. There were arrears of cess amounting to Rs. 9.05 crore of which Rs. 3.02 crore was more than five years old. Against 34850 hectares targeted during the X Plan period for replanting, achievement was only 23771 hectares. The Productivity Enhancement Scheme was not implemented during the first three years of the plan period due to delay in getting Ministry's approval. The scheme was also affected by inadequate procurement of inputs like rain guarding materials, fungicides etc. Underutilisation of the available area in the Board's nurseries ranged from 38 to 62 per cent. In the ten Regional Offices test-checked, shortfall in supply of plants from nurseries was 86 *per cent.* Substantial delays were noticed in disposal of applications for permits for planting and replanting, thus delaying assistance to growers. During the period 2002-07 there was decline in the area of plantation in non-traditional areas like Goa, Andaman & Nicobar, Orissa and Maharashtra. The Group Planting Scheme was not implemented in Regional Office, Guwahati during the first two years of the X Plan and implementation during the remaining three years was tardy. Insufficiency in field visits in the North-East resulted in deficiency in advisory and extension support to the growers. The scheme for setting up demonstration plots was not implemented by Guwahati Regional Office. Against the targeted number of 500 Rubber Producer's Societies only 72 were set up during the X Plan.

(Paragraph 2)

MINISTRY OF HUMAN RESOURCE DEVELOPMENT

Indira Gandhi National Open University

The Indira Gandhi National Open University (IGNOU) was established in 1985 primarily with the objective of providing opportunities of higher education through distance learning to a large cross section of people keeping in view their needs of employment and to determine the standards of open and distance learning systems in the country.

Performance audit of IGNOU disclosed that it did not carry out comprehensive need assessment studies to assess the firm demand before introduction of new programmes, which resulted in low success rates of a large number of new programmes. IGNOU did not carry out regular revision of programmes which resulted in decline in enrolments in many popular programmes as well decline in the academic performance of the university. The pass *percentage* of students in a large number of programmes of IGNOU was low. Placement services offered by IGNOU did not meet the objective of assisting the students to secure appropriate jobs. There were delays in dispatch of study material and declaration of results causing inconvenience to the students. Its achievement in respect of measures to provide access to higher education to the disadvantaged sections of the society was insignificant.

IGNOU was assigned the task of establishment, maintenance and operation of 40 FM channels termed as Gyan Vani, for broadcasting educational programmes. Despite an expenditure of Rs. 33.38 crore up to 2007 only 26 stations have been commissioned as of May 2007. Even the utilization of the commissioned channels was far below the available maximum programme hours. IGNOU is also the nodal agency for uplinking and transmission of the four Gyan Darshan channels for telecast of educational programmes. IGNOU's inability to ensure the telecast of Gyan Darshan channels by popular media service providers resulted in low viewership of these channels. Further, teleconferencing facilities established by IGNOU to facilitate direct access with teachers, were not utilized to the full extent due to poor response from students and lack of facilities in most of the study centers. IGNOU did not carry out any survey for determining the popularity and usefulness of Gyan Vani and Gyan Darshan channels.

Distance Education Council (DEC) was set up by IGNOU to function as an apex body for promotion, coordination and maintenance of standards of Open and Distance Learning (ODL) system in the country. DEC's regulation of ODL system was inadequate and ineffective, since many State Open Universities (SOUs) and Correspondence Course Institutes (CCIs) continued to offer programmes to students without getting DEC's approval. Besides, despite release of heavy grants to 54 CCIs by DEC, it failed to review and give approval to the programmes of these grantee institutions and failed in its commitment to develop a common pool of programmes for sharing with SOUs and CCIs.

Expenditure on Plan schemes such as establishment of national network of open and distance education, establishment of national center for innovation in distance education and schemes for disadvantaged groups and regions was negligible resulting in non-achievement of objectives. IGNOU suffered substantial loss of interest due to injudicious investments.

(Paragraph 3)

MINISTRY OF SHIPPING, ROAD TRANSPORT AND HIGHWAYS

Cochin Port Trust

Integrated Vessel & Cargo Information and Billing System (IVCIBS) and Financial Management System (FMS) in the Cochin Port Trust

Cochin Port Trust (CoPT), rendering services to Inland and Foreign vessels in handling cargo, initiated a Project during 1998-99 for the computerisation of different areas of Port operation so as to equip it to compete with other Ports. IT Audit of two major IT Applications, "Integrated Vessel & Cargo Information and Billing System (IVCIBS)" and "Financial Management System (FMS)" revealed glaring deficiencies in input control and process control. Also the inadequate logical access control affected the integrity of the database. CoPT, which invested Rs. 5.25 crore on the Project, continued with the manual system and did not attempt effective utilisation of all the features in the application developed, so as to introduce budgetary control or to increase the efficiency of Port operation.

(Paragraph 4)

MINISTRY OF URBAN DEVELOPMENT

Delhi Development Authority

Construction and Allotment of Houses by Delhi Development Authority

Delhi Development Authority is responsible for the development and construction of Housing colonies and complexes to meet the housing needs of various sections of the population of Delhi. Audit review for the period 2002-03 to 2006-07 revealed that despite having sufficient funds, houses targeted to be constructed could not be achieved. Housing works were awarded without obtaining prior approval from local bodies and without ensuring availability of structural drawings and material to the contractor in time. Out of 30 works selected for detailed scrutiny, 3 works were rescinded and none could be completed in time as a result of which escalation charges of Rs. 6.83 crore were paid. Routine inclusion of clause 10CC in the lump sum contracts caused undue benefit of Rs. 10.71 crore to the contractors. As of 31 March 2007, 11650 houses constructed prior to April 2002 were not disposed off. On the other hand, waiting list for LIG houses in New Pattern Housing Scheme-79 (NPRS-79) and Ambedkar Awaas Yojana-89 (AAY-89) could not be cleared even after expiry of 27 and 17 years respectively since commencement of these schemes.

(Paragraph 5)

MINISTRY OF COMMERCE AND INDUSTRY

COFFEE BOARD

WORKING OF THE COFFEE BOARD

CHAPTER I : MINISTRY OF COMMERCE AND INDUSTRY

1. Coffee Board

Working of the Coffee Board

Highlights

The developmental activities relating to coffee in India come under the purview of the Coffee Board. Following are the highlights of the findings of performance audit of the working of the Coffee Board.

- **The target of stepping up production from the level of 3 lakh MT in 2001-02 to 4.20 lakh MT by 2006-07 remained unachieved. The production as at the end of 2006-07 was 2.88 lakh MT only. As compared to production targets, the actual production fell short by 14 to 31 *per cent* during the Plan period.**

- **No new varieties of coffee were released by the Board for the benefit of the farmers after 1984 and the Board continued to rely on the main varieties developed before 1980 for breeding purposes; these varieties (developed before 1980) were prone to pest infestations thereby hampering productivity.**

- **The Board could not develop any forecasting models on either weather parameters *versus* yield or weather parameters *versus* outbreak of pests/diseases.**

- **At the end of 2006-07, sixty *per cent* of total planted area of Robusta coffee, the variety mainly affected by the coffee berry borer (CBB) continued to be under CBB infestation and 77 *per cent* of the total Arabica planted area continued to be infested with white stem borer.**

- **The Board was yet to recommend any effective effluent treatment mechanism to combat water pollution. This has resulted in release of the coffee effluents without treatment to the fields and streams affecting aquatic life.**

- **The Board failed to bridge the yield gap between large and small growers.**

- **The Board failed to consolidate the cultivated area of coffee in North Eastern Region; the productivity was also very poor.**

- **The productivity of coffee in non-traditional areas of Andhra Pradesh and Orissa was quite poor as compared to national average and fluctuated widely from year to year.**

- **The Board failed to achieve the targets of exports of Indian coffee as envisaged. The exports remained even below the base level of 2.4 lakh tonnes during most part of the Plan period. The exports to Belgium, the Russian Federation and Germany which were major markets for Indian Coffee showed declining trend.**

- **For integration of India's coffee trade with the global coffee trade, the global strategy consultants recommended that the Board could start by opening a business centre on its premises to allow global traders to use its resources, office space and quality control laboratory and market intelligence. The Board failed to take concrete steps in this direction.**

Summary of recommendations

- **As the Board is the premier organization conducting research on coffee in India, research activities should be strengthened and more oriented towards developing new pest/disease resistant varieties for cultivation and enhancing coffee quality.**

- **The Board should strive to expeditiously develop reasonably reliable forecasting models on weather parameters *versus* yield and weather parameters *versus* outbreak of pests/diseases.**

- **The Board should accord top priority to plant protection measures.**

- **The Board should expeditiously make validated Geographical Information System available to coffee growers.**

- **The Board should expeditiously identify and recommend effective effluent treatment mechanism to combat water pollution.**

- **The Board should make concerted efforts to bridge the yield gap between large and small growers by providing necessary support to small grower sector.**

- **The Board should step up efforts to consolidate the coffee area already under cultivation in North East Region and Non Traditional Areas to achieve better production and productivity.**

- **Besides targeting key markets for increase in exports, the Board should also take measures to consolidate its share in other major markets.**

- **The Board should work towards reducing growing costs so as to ensure a competitive landed price for Indian coffee. The Board should also take measures for maintaining consistency in the quality of exported coffee.**

- **The Board should take concrete steps towards achieving integration of India's coffee trade with the global coffee trade.**

1.1 Introduction

The Coffee Board (Board), a statutory organization under the administrative control of the Department of Commerce, Ministry of Commerce and Industry, Government of India was constituted under the Coffee Act, 1942. The developmental activities of coffee in India come under the purview of the Board. Prior to 1992, the Board was vested with the powers of marketing the entire coffee produced in the country under a unique pooling system. The Government of India (GOI) liberalized the coffee marketing by introducing free sale quota in a phased manner from 1992-93, achieving full liberalization in 1995-96. The focus of the Board thus shifted from active marketing to critical areas like research, extension, quality management, market promotion, etc. in post liberalization phase.

The main functions of the Board are:

- formulating strategies for development of the coffee industry;
- taking up activities to improve the production, productivity and quality of coffee;
- encouraging scientific, technological and economic research for transfer of technology to the coffee industry;
- collecting, disseminating and publishing economic and technical information, statistics and studies relevant to the coffee industry;
- promoting, encouraging and increasing the consumption of coffee in India and abroad by undertaking market development activities;
- developing, promoting and regulating the export of coffee and evolving suitable quality standards for coffee.

1.2 Organizational Set-up

The Board is headed by the Chairman appointed by the Central Government and 32 members representing various interests as provided under the Coffee Act and Rules made thereunder. The Chairman is assisted by a Secretary and three Directors for Finance, Research and Promotion. The Board has its head office in Bangalore and a network of research institutions / extension offices in the coffee growing regions and promotional units in different parts of the country.

1.3 Scope of audit

The performance audit was conducted covering the period from 2002-03 to 2006-07 through test check of records pertaining to the Board's head office, Central Coffee Research Institute (CCRI), Balehennur, two Coffee Research Institutes (CRIs) and nine extension offices (EOs).

1.4 Audit objectives

Performance audit was conducted to examine the economy, efficiency and effectiveness of the activities of the Board in respect of the following areas/ schemes:

- Utilization of funds

  Stepping up production, productivity and quality through plant improvement and bio-technology, crop management and protection etc.
- Transfer of technology through extension centers and capacity building
- Providing support to small grower sector viz., re-plantation, quality up gradation, water augmentation, pollution abatement etc.
- Export promotion of Indian Coffee

1.5 Audit criteria

Audit criteria were derived mainly from the following:

- Provisions of Coffee Act, 1942 and rules and regulations framed there under.
- The commitments/targets set by the Board in the X Plan proposals submitted to GOI;

1.6 Audit methodology

The performance audit of the Board commenced with an entry conference with the Board's management in October 2006 in which the audit objectives, scope and criteria were explained. Audit examined the records of the Board, CCRI, CRIs, and nine EOs. Besides, it analysed relevant data and performance of the Board with the stipulated criteria. Memoranda containing audit observations were issued to various levels of management, and audit findings were discussed in detail in an exit conference.

Audit Findings

1.7 Financial Management

GOI approved (between June 2002 and July 2003) an outlay of Rs. 298.93 crore for implementation of the central sector schemes during the X Plan period against which the Board incurred an expenditure of Rs. 212.22 crore.

The year-wise details of grants released by the GOI, and the expenditure incurred by the Board are given in the table below:

(Rupees in crore)

Year	Opening Balance	Grants released	Total	Expenditure	Closing Balance
2002-03	8.41	48.00	56.41	31.68	**24.73**
2003-04	24.73	26.00	50.73	45.52	**5.21**
2004-05	5.21	50.00	55.21	36.63	**18.58**
2005-06	18.58	51.50	70.08	42.43	**27.65**
2006-07	27.65	29.93	57.58	55.96	**1.62**
Total		**205.43**		**212.22**	

As may be seen from the table, the grants released by the Ministry fell short of the approved outlay by 31 *per cent.* There were huge unspent balances at the end of year 2002-03 (Rs. 24.73 crore), 2004-05 (Rs. 18.58 crore) and 2005-06 (Rs. 27.65 crore) and the short release of grants by the Ministry was attributable mainly to slow pace of utilization of funds by the Board. The Board attributed (September 2007) the reason for short utilisation of grants to the poor response by the growers for the developmental schemes owing to crash in coffee prices and prolonged drought.

1.8 Coffee production

Coffee cultivation in India is mainly confined to the traditional areas in Karnataka, Kerala and Tamil Nadu which accounted for 99 *per cent* of the coffee production. Limited cultivation in non-traditional areas of Andhra Pradesh, Orissa and North Eastern States contributed the remaining one *per cent*.

With a view to increasing the production of coffee from 3 lakh MT in 2001-02 to 4.2 lakh MT by the end of 2006-07, the Board had implemented seven major schemes during X Five Year Plan as given below:

Sl. No.	Scheme	Month / Year of Approval	Outlay	Expenditure
			(Rupees in crore)	
1.	Stepping up Production, Productivity and Quality	-	92.40	53.14
2.	Infrastructure Development, Capacity Building and Transfer of Technology (ToT)	June 2002	96.55	73.69
3.	Market Development	-	42.70	18.19
4.	Interest subsidy to Small Growers	October 2002	15.00	31.30
5.	Transport subsidy	January 2003	9.00	11.30
6.	Interest subsidy to Large Growers	February 2003	7.08	6.02
7.	Support to Small Grower Sector	July 2003	36.20	18.58
	Total		**298.93**	**212.22**

1.8.1 Achievements against Targets

Achievements against targets for production for the Plan period are indicated in the following table:

Year	Production target (MT)			Actual Production(MT)			Shortfall (*per cent*)		
	Arabica	Robusta	Total	Arabica	Robusta	Total	Arabica	Robusta	Total
2002-03	116000	205000	321000	102125	173150	275275	12	16	14
2003-04	127000	215000	342000	101950	168550	270500	20	22	21
2004-05	140000	226000	366000	103400	172100	275500	26	24	25
2005-06	154000	238000	392000	94000	180000	274000	39	25	30
2006-07	170000	250000	420000	99700	188300	288000	41	25	31

It is evident from the above table that coffee production remained stagnant during X Plan period except minor improvement of around 5 *per cent* shown during 2006-07 as compared to previous year. As compared to production targets, the actual production fell short by 14 to 31 *per cent* during the Plan period. Further, while production of Robusta showed minor improvement, the production of Arabica exhibited declining trend during the X Plan period. The Board stated (September 2007) that constraints such as man power, low coffee prices and severe pest menace in the early years of the Plan period had adverse impact on achievement of targets for production and productivity. The coffee growers did not have the capacity to absorb the subsidy based interventions.

1.9 Programmes for stepping up of production, productivity and quality

The programmes for stepping up of production, productivity and quality consisted mainly of three components.

- Plant improvement & use of biotechnology
- Crop management
- Plant protection measures

1.9.1. Plant improvement & use of biotechnology

The objective of the scheme was to develop improved planting material in the form of seeds, seedlings and clones of improved varieties for supply to growers, to characterize and conserve the gene pool of Arabica and Robusta and introduce new germplasm selections from other countries for utilization in breeding, to develop protocols for in vitro multiplication of coffee, to develop strategies for producing genetically modified coffee plants for disease and pest resistance and low caffeine.

1.9.1.1 Non-development of new variety

During the X Plan period, the research division of the Board continued the pilot scale evaluation of four genotypes, one of which was started in the year 1981, with an intention to release them for cultivation. The division was yet to conclude (August 2007) the evaluation studies and consequently no new varieties were released by the division for the benefit of the farmers after 1984. The Board continued to rely on the main varieties developed before 1980 for breeding purposes; in fact, the variety released during 1945-46 continues as the major variety for cultivation. But these varieties (developed before 1980) were prone to pest infestations thereby hampering productivity. The Board stated (September 2007) that the materials released for commercial cultivation earlier to 1980 were still reasonably productive, but recently became more susceptible to diseases and pests on account of age and emergence of new strains of leaf rust.

1.9.1.2 Characterization and registration of germplasm selections and hybrids

The division continued studies on characterization of coffee germplasm selections and hybrids during the X Plan period with the objective of utilizing the available genetic resources in breeding programme. During the X Plan period, the division planned to complete the characterization of 200 existing germplasm selections and targeted to register 150 of them with the National Bureau of Plant Genetic Resources (NBPGR). But by the end of 2006-07, the division achieved partial characterization of only 112 selections and registered nine selections (three selections were registered during the Plan period). The Board replied that the NBPGR registered only unique indigenous lines and that out of 12 Arabica varieties, indigenous bred for commercial cultivation of nine were already registered and remaining three would be registered during 2006-07. The Board attributed the slow progress of work primarily to lack of personnel who can be put exclusively on this work. The reply of the Board is not convincing as the Board had planned evaluation of four new genotypes, characterization of 200 germplasm selections and registration of 150 germplasm by redeploying the existing staff of CCRI besides engaging temporary scientific staff like Research Associates/Research Fellows, Technical Assistants/Skilled Assistants on adhoc basis for the project period.

1.9.1.3 Use of biotechnology

The expected outputs for the X Plan included production of leaf rust resistant transgenic plantlets, isolation of Bacillus thuringiensis crystal proteins effective against the white stem borer and coffee berry borer and production of microbial caffeine degradation gene etc. In this regard following was observed:

- The Research division developed two leaf rust resistant transgenic plants during 2002-03, but the plants did not survive. This project was discontinued in June 2004 without recording the reasons for not carrying forward the leads obtained from the project.
- The project for introduction of cry genes of Bacillus thuringiensis carried out in collaboration with Madurai Kamaraj University (MKU), Madurai was also discontinued during June 2002. The Board replied (September 2007) that the protocols developed would be used for developing transgenic plant in the next phase of the project.
- The research division had taken up a project for developing microbial caffeine degradation gene in collaboration with Indian Institute of

Science (IISc), Bangalore but the project was discontinued in June 2002 without recording any reasons. The Board stated (September 2007) that IISc withdrew itself from participation during the middle of the project since no Memorandum of Understanding (MoU) signed between the partners existed and the technology could not be delivered. The Board also added that the CFTRI, Mysore, which was also involved in the project, developed caffeine free coffee plant which was available for further studies in the next phase of the project, which was in execution.

Thus, the fact remains that the Board could not achieve any break-through in production of leaf rust resistant transgenic plantlets or isolation of Bacillus thuringiensis crystal proteins effective against the white stem borer and coffee berry borer or production of microbial caffeine degradation gene.

Recommendation

- *The Board needs to strengthen and orient its research activities towards developing pest/disease resistant varieties and for enhancing coffee quality.*

1.9.2 Crop Management

The scheme envisaged the development of agro-techniques to enhance productivity, studies on the physiological aspects of biotic/abiotic stress in coffee and integrated nutrition management and soil/tissue testing advisory service.

1.9.2.1 Development of forecast models on yield and outbreak of pests and diseases based on weather parameters

Crop weather modeling project initially launched in CCRI, Balehonnur (1997-98) was continued in the X Plan under the scheme of crop management under the title 'Development of agro-techniques to enhance productivity' to develop a crop weather model to identify the critical weather parameters, which influence the yield in coffee and to develop forecast models on yield and outbreak of pests and diseases based on weather parameters. The project involved field experiments in various agro climatic zones and development of computer models for forecasting the crop yields and outbreak of major pests and diseases in collaboration with other research institutes /universities. Audit observed as follows:

- As per the project proposal, the studies required the services of an agro meteorologist for overall implementation and monitoring of the scheme, and two temporary research associates to assist the agro meteorologist in the research programmes. The services of agro-meteorologist were required for co-relating the data on weather with data on pest incidence to develop a forecasting model. The

Government did not accord sanction for the appointment of an agro-meteorologist.

- In the absence of an agro-meteorologist, the Board also failed to collaborate with other research institutes to make use of expertise available in the area of crop weather modeling.
- In the Staff Research Council meeting (May 2006), it was decided that agronomy scientists would record weather data while scientists of entomology and plant pathology would be involved in recording of incidence of pests. Three automatic weather stations were established under the project but the project did not proceed beyond generating data. The project could not develop any forecasting models on either weather parameters *versus* yield or weather parameters *versus* outbreak of pests/diseases.

Thus, the Board was yet to develop (August 2007) a forewarning model on pest/disease outbreak.

The Board stated (September 2007) that development of weather forecast model required pest and disease data for at least 15-16 years as the board had the disease data linked to weather only for the past six years, it would be possible to standardize a forecast model by the year 2015.

1.9.2.2 Geographical Information System

The Board entered into an agreement (2001) with Indian Institute of Technology, Delhi for development of Geographical Information System (GIS), a computer based planning and management system, capable of assembling, storing and displaying maps at a projected cost of Rs. 5 lakh. The aim of the project was to develop state-of the art software tool, which would enable decision making in efficient management of coffee plantations. The project was to be completed in one year. The pilot software was developed at an expenditure of Rs. 5 lakh and released during 2004 to five private estates for validation. As the Board was yet to gather the feedback, the Board could not validate the system and make it available to coffee growers. The Board stated (September 2007) that the growers wanted to use the system for all crops in the coffee estate and the issue was being taken up with the IIT, Delhi.

Recommendations

- *The Board should strive towards developing reasonably reliable forecasting models on weather parameters versus yield and weather parameters versus outbreak of pests/diseases.*
- *The Board should validate the GIS developed by the IIT Delhi and make it available to coffee growers.*

1.9.3 Plant protection measures

The objective of the scheme was to pursue studies on bio-ecology of key pests and diseases of coffee viz., white stem borer (WSB), coffee berry borer (CBB), mealy bugs, shot-hole borer, nematodes, leaf rust, black rot, stem canker, root diseases and black spot on beans and to facilitate effective transfer of integrated pest and disease management techniques to the coffee growing community.

The Board spent Rs. 2.62 crore as subsidy for supply of picking mats, broca traps etc. during the period 2002-03 to 2006-07 to limit the damage caused by CBB. The Board also incurred an expenditure of Rs. 3.79 crore during the years 2003-04 (Rs. 2 crore), 2004-05 (Rs. 1.06 crore), and 2004-05 (Rs. 0.73 crore) to provide financial incentive under the 'Catch and Kill' project to Arabica growers to trace out and remove WSB affected plants and to recover pest stages from the affected plants with the objective of bringing down the pest levels to below threshold levels in all major Arabica zones, within a reasonable time frame.

At the end of 2006-07, 121368 hectares of land under Robusta cultivation in traditional areas which constituted sixty *per cent* of total planted area of Robusta coffee, the variety mainly affected by the CBB, continued to be under CBB infestation and 1,07,103 hectares of land (77 *per cent* of the total Arabica planted area) continued to be infested with WSB. The trend of infestation levels during the Plan period is indicated below:

(In hectares)

Year	**2002-03**	**2003-04**	**2004-05**	**2005-06**	**2006-07**
Area affected by CBB	123848	123998	134595	119544	121368
Area affected by WSB	Data not available			93479	107103

While admitting that no pest could be eradicated, the Board stated (September 2007) that the project had helped the growers to contain the incidence of CBB and WSB within manageable limits. It further added that the *percentage* area affected was with reference to pest incident at different levels and not the area infected continuously. However, the fact that the production of coffee remained stagnant during X Plan period and actually showed decline in case of Arabica is a pointer that the efforts put in by the Board to bring down the level of infestation were ineffective.

Recommendation

- *Top priority should be accorded to plant protection measures to bring down the infestation levels.*

1.9.4 Standardization of Post Harvest Technology (PHT) and containing mycotoxin & pesticide residue and metal contamination in Coffee

The objective of the scheme was to evaluate and standardize post harvest processing machinery, evolve methods for efficient utilization of coffee processing by-products and study mycotoxin, pesticide residue and heavy metal contamination etc. in coffee with the objective to produce quality coffee.

The Board had envisaged achieving the following by the end of the Plan period:

- Identification of efficient pulper cum washers and driers for coffee;
- Development of technologies for converting coffee wastes into useful products;
- Generating data base on mycotoxin, pesticide residues and heavy metal contamination in coffee;
- Developing code of good practices to prevent occurrence of mycotoxins in coffee and
- Evolving cost viable treatment methods for coffee effluent.

Audit observed the following:

- The Board had identified efficient pulper cum washer and recommended the same for adoption.
- The Board also developed a code of good practices to prevent occurrence of contaminants in coffee like mycotoxin, pesticide residues and heavy metals.
- The effluents arising out of wet processing of coffee were required to be treated before releasing to fields and streams as stipulated in the Water Act, 1974. Board in association with National Environmental Engineering Research Institute (NEERI) developed an Effluent Treatment Plant (ETP) during the IX Plan period. But the ETP did not conform to the specifications stipulated by Karnataka State Pollution Control Board (KSPCB). The research division also evaluated 16 ETPs located at various estates and the bio-reactor developed by IISC installed at CCRI during the Plan period. The Board, however, was yet to recommend an effective effluent treatment plant to combat water pollution. This has resulted in release of the coffee effluents to the fields and streams without treatment affecting the aquatic life. The Board stated (September 2007) that issue had been taken up with the concerned authorities for relaxation of norms to find a solution for realistic and achievable targets.

Recommendation

- *The Board should expeditiously identify and recommend effective effluent treatment plant to combat water pollution.*

1.10 Transfer of technology and capacity building

The objectives of the scheme are to render extension services to enable coffee growers to achieve overall improvement in productivity, quality and market competitiveness, empower small and tiny growers in decision making, provide quality seed material, plant material, bio-agents, encourage infrastructure development for production of quality coffee and provide market information and training on coffee culture. The details of targets / achievements under different components of the scheme are indicated in **Annex I.**

The Board did not carry out the extension activities such as Integrated Pest Management blocks, maintenance of demonstration plots and check inspection on census of coffee estates.

The Board stated (September 2007) that the maintenance of IPM blocks and demonstration plots were discontinued as the usefulness of such practices got diffused among the growers and the pest menace was effectively brought under control by dissemination and adoption of appropriate management practices. Limited strength of extension personnel was the reason stated for discontinuance of census of coffee estates. The Board further stated that it reoriented the activities with emphasis on conducting Farmers' Participatory Method (FPM) workshops, conducting mass communication programmes, training programmes etc. that were more crucial and needed by the growers.

1.11 Programme to provide support to Small Grower Sector

The scheme envisaged to bridge the yield gap between large growers and small growers which was estimated at 200Kg/hectare. The main components of the scheme were incentive for replanting, water augmentation, quality up-gradation and pollution abatement measures. The Board got the scheme approved by GOI only in July 2003 and could utilise only 50 *per cent* of the approved outlay.

1.11.1 Re-plantation

With a view to improve competitiveness and market share in Arabica in the international market, the Board set a target for new plantation / re-plantation of 10,000 hectares with Arabica varieties during the Plan period by providing 20 *per cent* subsidy on the capital cost. The scheme included re-plantation of existing Arabica tracts by removal of old/moribund plants and substitution of Robusta with Arabica in locations suitable for Arabica cultivation.

The achievements vis-à-vis targets were as indicated below:

	2002-03	2003-04	2004-05	2005-06	2006-07	Total
Target in Hectares	2000	2000	2000	2000	2000	10000
Achievement in Hectares	0	27.25	493	1404	7606.05	9530.30

The Board attributed (September 2007) the low achievement during 2002-05 to the combined effect of adverse international prices during the period 1999-2004, pest attack and prevalence of prolonged drought conditions in coffee growing regions.

1.11.2 Water Augmentation

With a view to enhance productivity of Robusta, the Board proposed to provide incentives for 1400 units to facilitate water augmentation by development of tanks, wells, storage dams, bore wells etc., for water harvesting and provision of protective irrigation. Under the scheme, the growers were eligible for a subsidy of 25 *per cent* of the actual cost of construction/equipment subject to a maximum of Rs. 50000/- per unit. The Board provided incentives for development of 3409 water sources exceeding the target by 143 *per cent.* But, the scheme failed to make a significant impact as the extent of Robusta area benefited under the scheme during the Plan period was merely 8.8 *per cent* (12807 hectares) of the total planted area of Robusta (145949 hectares) in traditional areas.

The Board stated (September 2007) that many growers had the infrastructure developed by their own resources and with the support from the Board and other financial institutions over the last three to four decades and only the remaining and viable area could be covered under the scheme in a phased manner. The Board agreed to consider the fixation of targets for area coverage also during XI Plan period.

1.11.3 Quality upgradation

To encourage scientific method of coffee processing at estates and curing centers, the Board envisaged to provide financial assistance in the form of subsidy at the rate of 20 *per cent* on the investment made by the growers, curers, traders and exporters for upgrading their facilities aimed to improve quality of coffee. Audit observed the following:

- The achievement (2922 units) far exceeded the target (450 units) in respect of pulpers/washers, drying yards and godowns during 2002-03 to 2006-07.
- Against target of establishment of 25 Quality Testing Centers only five centers were established.
- The Board did not implement the scheme in respect of BIS/ISO certification, assistance for Backward Integration of Processors and Upgradation of Curing Machinery.

The Board attributed the shortfall in establishment of quality testing centers to the existence of sufficient quality testing centers operated by private sector apart from the three centers established by the Board. The reply of the Board indicates that the targets were fixed without properly assessing the need. With regard to BIS/ISO certification, the Board stated that there were no takers to avail of this initiative.

The Board further stated (September 2007) that due to price crisis and prolonged drought condition up to 2004-05, the small growers were not able to make capital investments required for taking up activities relating to quality upgradation .

1.11.4 Pollution Abatement Measures

The scheme envisaged 20 *per cent* subsidy as incentive for the use of Bioreactors and other technologies recommended by the State Pollution Control Boards for controlling the pollutants arising out of the coffee effluents. The year-wise physical achievements against targets in terms of number of bio-reactors installed are indicated below:

	2002-03	2003-04	2004-05	2005-06	2006-07	Total
Target	20	70	70	120	120	400
Achievement	0	3	1	0	0	04

The above table indicates that the scheme did not find favour with the Coffee growers. The Board stated (September 2007) that the cost of the bio-reactor developed by IISc, Bangalore being very high, the response to the scheme was poor as the coffee growers were already cash strapped due to steep fall in coffee prices. Further, according to the Board, the Bioreactor did not meet the required standards prescribed by Central Pollution Control Board and the matter was taken up with the Union Ministry of Environment and Forest for revision of standards for coffee effluents.

1.11.5 Census of the coffee holdings

The Board did not conduct the census of the coffee holdings covering the size, area, production, productivity etc., for the last three decades. The projection under the scheme was made based on rough estimates/assumptions only.

In the absence of comparative details of productivity of small and large growers, audit could not assess the impact of various schemes implemented to bridge the gap between the small and large growers. The Board, stated that the gap in productivity between small and large growers almost remained at the same level of 200 Kg per hector.

Recommendation

- ➤ *Concerted efforts should be made to bridge the yield gap between large and small growers by providing effective support to small grower sector.*

1.12 Promotion of Self Help Groups of Small Growers

80 *per cent* of Coffee growers in India are small farmers. To help the small growers increase productivity by adopting improved standards of cultivation and upgrade facilities required for production of quality coffee, the Board decided to encourage all relevant activities linked to augmentation of productivity, quality improvement and value addition to be achieved through group approach by establishment of Self Help Groups (SHG).

Audit observed that the Board established only 144 SHGs against the target of 250 fixed during the Plan period.

The Board stated (September 2007) that SHGs being a new concept, it was possible to establish only 144 SHGs against 250 targeted during the Plan period. It also added that more thrust was given for formation of mini SHGs by providing financial assistance for raising Arabica coffee seedlings to encourage gap filling/replanting of plants uprooted due to pest infestation. The reply of the Board is not tenable as SHG is not a new concept.

Recommendation

- *The Board should promote SHG or mini SHG depending upon its experience with SHGs/ mini SHGs formed so far.*

1.13 Development of Coffee in North East Region

The objective of the scheme was to expand coffee cultivation in areas already identified as suitable in the seven states of North East Region (NER), consolidate the existing coffee holdings to improve the production and productivity from level below 100 kg/ha to a modest level of 250 kg/ha by extending subsidy for expansion, consolidation and market support activities.

The Board had targeted expansion as well consolidation of planted area by 3000 Ha during the Plan period. The planted area, production and productivity of coffee in NER during the Plan period are detailed below:

Year	Planted Area (Ha)	Estimated Yield (MT)	Effective Bearing Area in hectare	Actual Production (MT)	Productivity (Kg/Ha)
2002-03	14690.70	820	6534.10	262.40	40
2003-04	14298.75	1275	6534.10	288.50	44
2004-05	15678.15	1630	6174.15	248.05	40
2005-06	10414.19	2010	5928.18	232.20	39
2006-07	6251.84	3000	2795.46	144.50	52

As may be seen from above table that despite increase in planted area of coffee up to 2004-05, there was net reduction of total planted area from 14690.70 ha during the 2002-03 to 6251.84 ha at the end of the Plan period. Not only there was drastic decrease in production but the productivity also remained low and ranged from 39 kg/ha to 52 kg/ha. Thus, the targeted productivity of 250 kg/ha remains a distant dream.

The Board stated (September 2007) that 13000 hectares area brought under coffee cultivation prior to IX Plan period by the State owned corporations was not properly managed due to lack of involvement and support from the State Governments. About 7000 hectares of planted area handed over to around 5000 tribal growers was in abandoned condition. The Board was involved in providing technical support and financial incentive in the form of subsidy for the growers who came forward and evinced interest in proper care and maintenance of coffee area. The Board further stated that it was not possible to provide adequate follow up support to far-flung areas with the limited man power available. The reply of the Board is not convincing as both planted area and production drastically decreased during X Plan period which is a matter of concern and indicative of absence of concrete steps by the Board towards coffee cultivation in North East Region (NER).

Recommendation

- *The Board should ascertain the reasons as to why tribal growers were abandoning planted areas; do cost-benefit analysis of coffee cultivation to ascertain whether or not it makes sense to expand coffee cultivation in NER particularly in view of very poor productivity and accordingly take steps to address the real problem.*

1.14 Development of Coffee in Non Traditional Areas (Tribal Areas of Andhra Pradesh and Orissa)

The scheme envisaged the consolidation of existing coffee in the Non-Traditional Areas of Andhra Pradesh and Orissa and enthuse the tribal growers to produce quality coffee through improved coffee processing infrastructure by extending subsidy under consolidation and quality up-gradation scheme. Further the Coffee Board, in association with the Government of Andhra Pradesh, proposed coffee expansion in tribal sector to the extent of 24,000 ha during the Plan period.

The physical targets and achievements of various X Plan programmes for the development of coffee in Non-Traditional Areas are detailed below:

Sl. No	Activity	Target	Achievement	Shortfall in *percentage*
1	Expansion of coffee in Andhra Pradesh	24000 Ha	15984 Ha	33
2	Expansion of coffee in Orissa	1000 Ha	1005 Ha	
3	Consolidation of coffee in Andhra Pradesh	3000 Ha	2368 Ha	21
4	Quality up gradation measures			
	a) Community pulpers	115	05	96
	b) Baby pulpers	1900	1230	35
	c) Community centres/Godowns	22	21	5
	d) Curing works	1	1	-

The planted area, production and productivity of coffee in NTA during the Plan period are detailed below:

Year	Planted Area (Ha)	Production (MT)	Productivity (Kg/Ha)	National average (Kg/Ha)
2002-03	21777.60	2615	201	859
2003-04	24080.80	2270	167	832
2004-05	29305.65	4138	227	826
2005-06	32285.50	1802	91	803
2006-07	35728.70	3749	180	840

The production showed drastic fall during 2005-06. Besides, the productivity was quite poor as compared to national average and fluctuated widely from year to year.

The Board attributed low achievement to non adoption of intensive cultivation by the tribal growers.

Recommendation

- *The Board should focus on consolidation of the coffee area already brought under coffee cultivation in NTA regions to achieve better production and productivity.*

1.15 Scheme for promotion of export of Indian coffee

To enhance the market share of Indian Coffee in overseas markets, the Board launched the scheme for Export Promotion of Indian Coffee, which was approved (October 1998) by the GOI. The Scheme was continued even in the X Plan. McKinsey & Company, the global strategy consultants engaged (February 2001) by the Board to prepare a medium term export strategy for Indian coffee had recommended the following six point strategy:

- Shifting product mix in favour of Arabica
- Ensuring a competitive landed price for Indian coffee radically reducing growing costs
- Maintaining consistency in the quality of export of coffee
- Ensuring reliability of exporters
- Improving awareness of Indian coffee in target markets
- Integrating India with the global coffee trade

The strategy presented (April 2001) by the Board was subsequently approved by the GOI.

1.15.1 Achievements against targets in respect of Coffee export

Based on the recommendations of the global strategy consultants, the Board set out the target to achieve a compounded annual growth rate of 5 *per cent* keeping a base level of 2.4 lakh tonnes of coffee exports *per annum* with 6 *per cent* growth rate for Arabica and 4 *per cent* for Robusta and to enhance the market share of Indian coffee in key markets viz., USA, Germany and Italy and also in the secondary markets like Japan, Spain, Belgium and Netherlands.

Achievements against targets fixed for export of Indian Coffee are indicated in the table below:

(Qty in Metric tonnes)

	2002-03	2003-04	2004-05	2005-06	2006-07	Total
Target	252000	264600	277830	291722	306308	**1392460**
Achievement	207333	232684	211765	201555	248687	**1102024**
Shortfall (in *per cent*)	18	12	24	31	19	**21**

As may be seen, the exports of the Indian coffee fluctuated during the X Plan period within a range of two lakh MT to 2.5 lakh MT and remained lower than even the base level of 2.4 lakh MT except during 2006-07.

The details of export of Indian coffee to key markets and secondary markets are given in the **Annex II.**

While the exports to Italy showed uptrend, exports to Germany, another key market showed downtrend during 2003-04 and 2004-05 with improvement during 2006-07. In respect of secondary market countries, while the share of exports to Japan, Spain and Netherlands remained more or less constant, it decreased in the case of Belgium and Russian Federation.

Thus, the Board failed to maintain level of exports to Belgium, the Russian Federation and Germany which could be major market for Indian Coffee.

The Board stated (September 2007) that the coffee available in the country was exported and there was no probability of enhancing the export without increased production.

1.15.2 Shifting product mix in favour of Arabica

The Board had targeted to achieve the product mix of 40:60 between Arabica and Robusta by the end of X Plan. However the share of Arabica ranged from 34 to 38 *per cent* of total production.

The Board stated (September 2007) that low prices, unfavourable weather conditions and loss of millions of plants due to stem borer incidence during the period 2002-05 had affected the productivity of Indian Arabica while these unfavourable conditions did not affect the Robusta to that extent. As Robusta was more cost competitive, there was natural preference shown by the growers to augment Robusta production instead of Arabica. The Board also stated that Robusta variety, being the strength of Indian coffee industry, corrective action to treat Arabica and Robusta on equal footing was taken while formulating the XI Plan.

1.15.3 Ensuring a competitive landed price for Indian coffee by radically reducing growing costs

In order to be competitive in the global market, the landed cost of Indian washed Arabica should be competitive with Central American and Mexican washed Arabica in USA and Europe. Similarly, the landed price of Indian

Robusta in Italy should be competitive vis-à-vis that of African Robusta. This required Indian growers to cut growing costs by Rs. 7 per kg for Arabica and Rs. 4 per kg for Robusta by increasing yields by almost 35 *per cent.*

The expected yield by the end of X Plan period and actual yield at end of Plan period are shown below:

		Expected yield per Hectare	**Actual yield per Hectare (*)**
Arabica	Small growers	975	657
	Large growers	1150	
Robusta	Small growers	1400	985
	Large growers	1750	

(*) break-up for small and large growers not available

The Board failed to achieve the objective of increasing the yield and thereby bringing down the growing costs.

1.15.4 Consistency in the quality of exported coffee

Inconsistencies in the quality of coffee shipped could be attributed to inconsistencies in cup quality. The following five focused initiatives were to be implemented to ensure that cup quality remains consistent:

- Restricting the varieties of coffee grown for both Arabica and Robusta
- Aggressively communicating prioritized list of quality improvement measures to be adopted by farms
- Upgrading processing infrastructure for small farmers
- Making cupping mandatory for exporters and processing units in the next two years
- Making it mandatory for all processing works to obtain certification in the next two years

The Board implemented the first two initiatives. As regards, upgrading processing infrastructure for small farmers and obtaining BIS/ISO certification for processing units, there was shortfall in implementation of the schemes envisaged in this regard. The Board is yet to make cupping mandatory for exporters.

1.15.5 Reliability of exporters

To ensure that only reliable exporters are allowed to trade the following measures were recommended:

- formation of quality certification task force.
- utilisation of criteria for quality certification.
- accredition of external agencies for checking at Ports.

- checking of shipments for visual defects such as bean size and moisture.
- checking of shipments for cup defects such as foul odour.

The Board did not initiate any major measures in this regard.

Failure of the Board to initiate measures to ensure shipment of quality coffee and its low production resulted in decline in exports of Indian coffee to Germany, a key market country as decline in market share in Germany was due to inconsistency in quality and inability to supply in big lots.

1.15.6 Integrating India with the global coffee trade

As none of the global trading companies has offices in India, integration of India's coffee trade with the global coffee trade was felt necessary. To encourage large buyers to set up offices in India, the consultant recommended that the Board could start by opening a business centre on its premises to allow global traders to use its resources, office space, quality control laboratory and market intelligence.

The Board stated that this recommendation remained unimplemented though it had drawn up tentative plans/estimates during 2002-03 because of lack of serious proposals from buyers and non identification of location. The reply of the Board with regard to lack of serious proposals from buyers is not acceptable in view of the fact that the Board had not yet identified the location and made any efforts to invite proposals from the buyers, by making its intentions public.

Thus, the Board failed to implement the recommendations stated in the medium term export strategy. The Board could not even maintain the base level (export level of 2001-02). The Board stated (September 2007) that the targeted production growth rate could not be achieved due to unprecedented price crisis coupled with the adverse weather conditions during the most part of the Plan period and the export being, a function of production, the targets envisaged also could not be achieved.

Recommendations

- *The Board should not only target key markets for increase in exports but also make efforts to consolidate its share in other markets like Belgium and Russian Federation.*
- *The Board should work towards reducing growing costs so as to ensure a competitive landed price for Indian coffee. Besides, it should also take measures for maintaining consistency in the quality of exported coffee.*
- *The Board should take concrete steps towards achieving integration of India's coffee trade with the global coffee trade.*

Acknowledgment

We acknowledge the cooperation extended by the Coffee Board authorities to the audit team during the course of audit as well as entry and exit conferences.

The matter was reported to the Ministry in September 2007; their reply was awaited as of December 2007.

Annex I

(Referred to in paragraph 1.10)

Targets/achievements under different components of transfer of technology and capacity building scheme

	Extension activities		2002-03	2003-04	2004-05	2005-06	2006-07	Total
1	Request visits	T	5000	5000	5000	5000	5000	**25000**
		A*	27586	21812	23377	26582	26937	**126294**
2	Integrated Pest Management (IPM blocks)	T	200	200	200	200	200	**1000**
		A	Not carried out					
3	Printing of brochures and leaflets	T	10000	10000	10000	10000	10000	**50000**
		A	----	----	13755	13260	16843	**43858**
4	Media campaign	T	40	40	40	40	40	**200**
		A	26	23	8	55	49	**161**
5	Field Demonstrations	T	4000	4500	5000	5500	6000	**25000**
		A	5007	4064	4842	5650	5811	**25374**
6	Seminars by SLO level	T	50	50	50	50	50	**250**
		A	79	54	8	23	46	**210**
7	Mass contact programmes in remote areas	T	10	10	10	10	10	**50**
		A	13	4	4	16	16	**53**
8	Maintenance of Demonstration plots	T	40	40	40	40	40	**200**
		A	Not carried out					
9	Check inspection on Census of coffee Estates	T	8000	7000	---	---	-----	**15000**
		A	Not carried out					
10	Crop Estimation	T	4	4	4	4	4	**20**
		A	5	5	5	5	**5**	**25**
11	Implementation of developmental activities, collection of information of data etc.,		Targets were to be fixed depending upon the requirements. However, details of targets fixed and progress made were not available.					

* represents all the estate visits; breakup of request visits not available

Annex II

(Referred to in paragraph 1.15.1)

Details of export of Indian coffee to key/secondary markets

(Qty in MTs)

Country	2002-03	2003-04	2004-05	2005-06	2006-07
Key market					
USA	3505(1.69)	3237(1.39)	5646(2.69)	2448(1.21)	4232(1.70)
Italy	45594(21.99)	52197(22.43)	49232(23.25)	53413(26.51)	62786(25.25)
Germany	23344(11.26)	25680(11.64)	16518(7.80)	16742(8.31)	21835(8.78)
Secondary Market					
Japan	4899(2.36)	3538(1.52)	5918(2.90)	4147(2.06)	4644(1.91)
Spain	11142(5.37)	13898(5.97)	11499(5.43)	10292(5.11)	11091(4.46)
Belgium	17430(8.41)	18777(8.07)	9204(4.35)	11190(5.55)	13989(5.63)
Netherlands	2566(1.24)	3205 (1.38)	3604(1.70)	2949(1.46)	3445(1.39)
Russian Federation	36578(17.64)	33592(14.44)	34459(16.27)	29432(14.60)	27288(10.97)

Note: Figures in parenthesis indicate *percentage* with reference to total quantity of exports

MINISTRY OF COMMERCE AND INDUSTRY

RUBBER BOARD

FUNCTIONING OF THE RUBBER BOARD

CHAPTER II : MINISTRY OF COMMERCE AND INDUSTRY

2. Rubber Board

Functioning of the Rubber Board, Kottayam

Highlights

The area under rubber cultivation, production of natural rubber and productivity showed consistent uptrend during X Plan period. The productivity of 1879 Kg per hectare (provisional) was achieved during 2006-07 which was highest among the rubber producing countries in the world. The performance audit revealed certain areas which need to be addressed for sustaining the growth momentum. The highlights of the audit findings are as under:

- **During the X Plan period the Board targeted 34850 hectares for replanting by removing old and moribund plants. The achievement was 23771 hectares.**

- **Productivity Enhancement Scheme was not implemented during the first three years of the X Plan period due to delay in getting the Ministry's approval for the Scheme.**

- **Inadequate procurement of inputs like materials for rain guarding, fungicides etc. had affected the implementation of Productivity Enhancement Scheme.**

- ***Percentage* of under-utilization of available area in Board's nurseries during 2002-07 ranged from 38 to 62. In ten Regional offices test-checked, the shortfall in supply of plants from the nurseries was 86 *per cent.***

- **The Board had not fixed any time frame for disposal of applications for permits resulting in delay in granting financial assistance to growers.**

- **There was decline in the area of plantation in Goa, Andaman & Nicobar, Orissa, Maharashtra and Andhra Pradesh.**

- **Group Planting Scheme was not implemented in Regional Office Guwahati during 2002-03 and 2003-04 due to delay in approval of the scheme. Implementation of the activity during 2004-05 to 2006-07 was tardy.**

- **Insufficient field visits in the North-East resulted in deficiency in advisory and extension support to growers.**

- **The Scheme for setting up of demonstration plots was not implemented by Guwahati Regional Office during X Plan period.**

- **Against its target to set up 500 Rubber Producer's Societies (RPSs) during X Plan period, the Board set up only 72 RPSs.**

Summary of recommendations

- **The Board should increase the coverage of the 'Productivity Enhancement Scheme' during XI Five Year Plan period.**

- **Effective steps should be taken for procurement and timely distribution of agro-inputs taking into consideration the needs of the growers.**

- **As the growers rely on the Board for quality planting material, efforts should be made to maximize production and distribution of plantlets to the growers by optimizing use of the available areas in the nurseries.**

- **The Board should set up a time frame for disposal of applications for speedy and timely release of financial assistance to the growers.**

- **Board may analyze reasons for decline in the area of plantations in Goa, Andaman & Nicobar, Maharashtra and Orissa and take suitable remedial steps to stem the decline.**

- **Board should also encourage and cover SC/ST population under the scheme particularly in climatically suitable regions in Goa, Andaman & Nicobar, Maharashtra, and West Bengal.**

- **Adequate and effective extension support of technical officers should be provided to the growers.**

- **Regional Research Institute of India should strive for obtaining patents for clones released by the Institute.**

- **The Board should focus its research activities on tackling the problem of Tapping Panel Dryness as this is the major area of concern for the growers. The Board should make concerted efforts to popularize Low Frequency Tapping (LFT) among the growers by strengthening extension activities.**

- **The Board should take effective steps for the setting up of the Rubber Parks.**

2.1 Introduction

India occupies fourth position among the world's natural rubber producing countries. The Rubber Board (Board) was constituted by the Government of India (GOI) as a body corporate under the Rubber Act 1947, with the primary objective of the overall development of rubber industry in the country. The main functions of the Board are to promote the development of rubber industry, initiate action for undertaking, assisting or encouraging scientific, technical and economic research, and impart training in improved methods of planting, cultivation, manuring and spraying and giving technical advice to rubber growers. The Board has the duty to advise GOI on all matters relating to the development of rubber industry and export of rubber. The rubber growing areas of the country are divided into three zones, viz., (i) Traditional region comprising Kerala state and Kanyakumari District of Tamil Nadu, (ii) Non-traditional region comprising all states other than Kerala state and Kanyakumari District of Tamil Nadu and North East region and (iii) North-Eastern region comprising Assam, Tripura, Meghalaya, Nagaland, Manipur, Mizoram and Arunachal Pradesh.

2.2 Organizational set-up

The Board consists of a Chairman appointed by the GOI and 23 members including those representing GOI, States of Kerala and Tamil Nadu and Parliament as well as ex-officio members. The activities of the Board are carried out through eight departments, viz., Rubber Production, Rubber Research, Administration, Processing and Product Development, Training, Finance & Accounts, Licensing & Excise Duty and Statistics & Planning. The Headquarters of the Board is located at Kottayam in Kerala State.

2.3 Scope of audit

Performance audit of the functioning of the Board was conducted during May to August 2007 for assessing the effectiveness of implementation of various schemes/ activities of the Board covering the period 2002 to 2007.

2.4 Audit objectives

The performance audit of the Board was taken up to examine the efficiency and effectiveness of following major activities of the Board:

- Fund management and collection of rubber cess.
- Implementation of schemes like Rubber Plantation Development, expansion in non-traditional areas, expansion in North-Eastern region etc.
- Research activities undertaken by the Board.

2.5 Audit criteria

The audit criteria used for assessing the performance of the Board were derived from the following:

- The Rubber Act, 1947 and Rubber Rules, 1955
- GOI instructions for fund assessment and release and specific policy adopted by the Board
- GOI instructions for collection of Rubber Cess
- Policy adopted by Board for Public relation, marketing, training, internal control, monitoring and evaluation, and instructions issued from time to time on the subject by the Rubber Board/GOI.

2.6 Audit methodology

The performance audit commenced with an entry conference in May 2007 in which audit objectives, audit criteria and scope of audit were explained. Audit examined the records pertaining to the Board office at Kottayam, twelve Regional Offices (ROs)[1] and three Regional Research Stations (RRSs)[2].

2.6.1 Audit findings

The area under rubber cultivation, production of natural rubber and productivity showed consistent up trend during X Plan period as given in **Annex I**. As stated by the Board, the productivity of 1879 Kg per hectare (provisional) was achieved during 2006-07, which was highest among the rubber producing countries in the world. The performance audit revealed certain areas which need to be addressed for sustaining the growth momentum. The audit findings are discussed in following paragraphs.

2.7 Fund management

2.7.1 Receipts and expenditure

The receipt and expenditure of the Board during 2002-07 are under:

(Rupees in crore)

Year	Receipts			Expenditure
	GOI Plan grant	Own resources	Total	
2002-03	71.28	0.65	71.93	84.08
2003-04	80.83	2.23	83.06	90.05
2004-05	90.00	4.82	94.82	90.68
2005-06	81.73	2.78	84.51	82.05
2006-07	78.39	1.94	80.33	90.10
Total	**402.23**	**12.42**	**414.65**	**436.96**

[1] Adoor, Changanassery, Erattupetta, Ernakulam, Kothamangalam,Pala, Palakkad, Thiruvananthapuram, Marthandam,Mangalore, Guwahati and Tripura

[2] Guwahati, Tripura and Kannur

2.7.2 Arrears in collection of Rubber Cess

Sub Section 2 of Section 12 of the Rubber Act, 1947 stipulates that the duty of excise (cess) on all natural rubber produced in India shall be collected from the manufactures by the Board and out of the cess collected, the Board is entitled to retain two *per cent* as cost of collection and the balance is to be remitted to the GOI. Year-wise details of cess collected, cost of collection and GOI grant are given below:

(Rupees in crore)

Year	Net proceeds of cess credited to the Consolidated Fund of India	Cost of collection retained	GOI grant
2002-03	84.42	1.66	71.28
2003-04	83.40	1.72	80.83
2004-05	93.83	1.92	90.00
2005-06	94.33	1.93	81.73
2006-07	99.19	2.02	78.39
Total	**455.17**	**9.25**	**402.23**

It was noticed in audit that as per the latest Demand, Collection and Balance (DCB) there were arrears of cess amounting to Rs. 9.05 crore of which Rs. 3.02 crore was more than five years old. It was also seen that though Cess arrears of Rs. 92.45 lakh was found to be irrecoverable, the amount has not been written off so far.

Recommendation

- *The Board should take effective measures to realize arrears of Cess.*

2.8 Implementation of Rubber Plantation Development (RPD) Scheme

The Rubber Production Department is responsible for planning, formulation and implementation of schemes for promoting cultivation of natural rubber and improving quality of the produce. The major programmes during X Plan period were Rubber Plantation Development (RPD) Scheme and Programme for promotion of Rubber cultivation among Scheduled Castes / Scheduled Tribes through block planting and group planting schemes.

The RPD Scheme is intended to increase production of natural rubber, by accelerating new planting and replanting of rubber on modern scientific lines by providing financial assistance to growers in the form of planting grant. It also envisaged setting up of revolving fund of Rs. 10 crore for purchase of critical inputs for distribution to small growers through Rubber Producers' Societies, maintenance of nurseries in traditional and non-traditional areas, supporting Model Rubber Producer's Societies, promoting extra income generation through apiculture, conducting educational campaigns, etc.

The major activities taken up under RPD scheme were as under:

- Planting and replanting

- Productivity enhancement
- Production and distribution of planting materials
- Distribution of agro inputs
- Rubber plantation for settlement of tribal people.

The GOI approved the RPD scheme for implementation during X Plan for an outlay of Rs. 132.73 crore.

2.8.1 Planting and Replanting in Traditional Areas

The Board targeted new planting in 5000 hectares and replanting of 34850 hectares of old and low yielding rubber plantations during X Plan period, by taking up 7970 hectares annually. The target and achievement of planting and replanting for X Plan period was as under:

Physical Parameters	Target (hectares)	Achievement (in hectares)						*Percentage* of achievement
		2002-03	2003-04	2004-05	2005-06	2006-07	Total	
Replanting	34850	4563	5386	4991	4777	4054	23771	68
New Planting	5000	1073	2196	4403	5647	4222	17541	351
Total	**39850**	**5636**	**7582**	**9394**	**10424**	**8276**	**41312**	**104**

It may be seen that while the Board's achievement in respect of new planting surpassed the target by a wide margin, its achievement in respect of replanting fell short of target by 32 *per cent* in X Plan. The shortfall was attributable to the rise in price of natural rubber; the growers were reluctant to remove old trees as even lesser production fetched reasonable income due to increase in prices.

The Board stated (June 2007) that replanting would be taken up in phased manner and replanting of the whole area was not contemplated as it would affect production.

2.8.2 Productivity Enhancement Scheme

The X Plan envisaged improving productivity by discriminatory fertilizer application, scientific tapping, scientific disease control method, soil conservation and rain guarding through the productivity enhancement scheme. To provide inputs to the growers at a concessional rate through Rubber Producer's Society (RPS), Board proposed to procure the inputs by creating a revolving fund of Rs. 10 crore. The Board aimed to achieve 15.30 *per cent* increase in production through these measures.

Audit scrutiny brought out the following:

- The Ministry approved RPD Scheme for X Plan period only in May 2005. Due to the delay in getting the approval for the scheme, productivity enhancement component could be implemented only during the last two years of the Plan period.

- During the IX Plan period, productivity enhancement measures annually covered 50000 hectares when it was implemented through World Bank aided project. During X Plan period, the productivity enhancement measures annually targeted only 25000 hectares which was only 4.4 *per cent* of planted area of 566555 hectares at the end of IX Plan period. The target set was, therefore, very low.
- Even against the low annual target of 25000 hectares, Board could achieve the coverage of only 11000 hectares and 23276 hectares during 2005-06 and 2006-07 respectively.
- The procurement of agro inputs like materials for rain guarding, fungicides, etc did not meet the needs of Regional Offices. During 2005-06, copper sulphate (17.90 tonnes), rain guarding plastic (86.04 tonnes) and rain guarding compound (62.70 tonnes) were short supplied. During 2006-07, copper sulphate was not at all supplied against the required quantity of 125 tonnes. The quantity indented by ROs and the quantity for which orders were placed, supplied and shortfall in supply are given in **Annex II**. The shortage of arranging adequate inputs adversely affected the implementation of the productivity enhancement measures.

The Board stated (June 2007) that it achieved the productivity of 1879 kg/hectare/year at the end of X Plan period which was highest among the rubber producing countries and in order to achieve the highest optimum productivity of 2500 kg/hectare/year, all the old and uneconomic plantations would have to be replanted. This would be taken up in a phased manner keeping in view the allocations under RPD Scheme.

Recommendations

- *The Board should increase the coverage of the 'Productivity Enhancement Scheme' during XI Plan period.*
- *Effective steps should be taken for procurement and timely distribution of agro-inputs taking into consideration the requirements estimated by the respective Regional Offices.*

2.8.3 Production and distribution of planting materials

To ensure availability of quality planting materials at a reasonable price, the Board was maintaining seven nurseries in the Traditional Region. Of these, one nursery was closed down during X Plan period. Following was observed:

- The targets for production and achievement of six nurseries during X Plan were as given in **Table-A of Annex III**. While the production of plants in nurseries of the Board fell only marginally short of targets, test check in 10 Regional Offices revealed that against the requirement of 77.69 lakh plants demanded by growers, the Board supplied only 10.90 lakh plants (shortfall- 86 *per cent*) during X Plan as detailed in **Table-B of Annex III.** Out of the 10 test checked Regional Offices more than 90 *per cent* shortfall was noticed in the Regional Offices at Thiruvananthapuram, Kothamangalam, Adoor and Marthandam.

- Further while Board failed to meet the growers' demand, there was under-utilization of available area in Board's nurseries during 2002-07. The *percentage* of under-utilization of area ranged between 38 and 62 *per cent* of available area as indicated in **Table-C of Annex III.**

Recommendation

- *As the growers rely on the Board for quality planting material, efforts should be made to produce and distribute maximum plantlets by optimising the use of available areas in the nurseries.*

2.8.4 Disposal of applications for permits for planting and replanting

For availing of assistance under RPD scheme, the growers have to apply in the prescribed form accompanied by survey plan, area proposed to be planted and such other details pertaining to the estate as may be required by the Board. Following was observed:

- The Board has not specified any time frame for its officers for disposal of applications and completion of related work of grant of permit.
- During 2002-03 to 2006-07, the Regional Offices of the Board received 101125 applications for assistance under RPD scheme for planting in 63277 hectares, but the Regional Offices disposed of 63362 applications for planting in 35456 hectares which was 56 *per cent* of area proposed by the applications. Details are at **Annex IV**.
- Non-completion of stipulated items of work, non-production of land documents, failure to rectify the defects pointed out by the officials of the Board, were attributed as the main reasons for non-disposal of all the applications.

Test check in 10 Regional Offices in traditional area revealed that:

- 1241 applications for planting and replanting in 1217.39 hectares relating to the period 2002-03 and 2003-04 were not settled even as of March 2007
- 13019 applications were pending for inspection. Out of the 16347 subsidy permits inspected, 3071 permits are due for payment.
- According to the scheme of payment of subsidy for planting and replanting, the release of subsidy was to be made only on completion of the inspections. As inspections were not conducted in time, disbursement of subsidy was held up. In order to tide over the situation, the Board decided to skip inspections during the year 2003

and 2005. In 10 Regional Offices test checked, subsidy of Rs. 78.25 lakh in 5859 cases was paid without inspections.

Recommendation

- *The Board should set up a time frame for disposal of applications for speedy and timely release of financial assistance to the growers.*

2.9 Expansion of Rubber Plantation in non-traditional area

The year wise status of area of plantations during X Plan period in Non-Traditional Region was as given in **Annex V**.

It was noticed that overall area under rubber plantation increased from 23480 hectares during 2002-03 to 28770 hectares during 2006-07 registering an increase of 23 *per cent*. But this was mainly due to increase in the area of cultivation in Karnataka State and there actually was decline in the area of plantation in Goa, Andaman & Nicobar, Orissa and Maharashtra. Further, SC/ST population was not covered under the scheme in Goa, Andaman & Nicobar, Maharashtra and West Bengal.

Recommendations

- *Board may analyze reasons for decline in area of plantation in Goa, Andaman & Nicobar, Maharashtra and Orissa and take suitable remedial steps to stem the decline.*
- *Board should also encourage and cover SC/ST population under the scheme particularly in climatically suitable regions in Goa, Andaman & Nicobar, Maharashtra and West Bengal.*

2.10 Expansion of Rubber Plantation in North-East

In the North-East Region there were two Zonal Offices at Guwahati and Agartala and eight Regional Offices. The Board had formulated separate programmes for rubber development in this region. The outlay for rubber plantation was Rs. 84 crore during X Plan period. The allocation during the Plan period was Rs. 101.51 crore and the expenditure was Rs. 74.91 crore. During X Plan period the Board targeted 25650 hectares against which the achievement was 21278 hectares up to 2005-06. Important points noticed during test check of the two Regional Offices are discussed below:

2.10.1 Expansion of area and rubber production under Regional Office, Guwahati

The production and yield per hectare of rubber for areas under the Regional Office, Guwahati during 2002-07 are given below:

Year	Total area under plantation (hectares)	Total area tapped (hectares)	Production of Rubber (tonnes)	Yield per hectares (kg)	National average (Kg/hectare)
2002-03	4350.85	1192.78	1233.00	1034	1592
2003-04	4131.25	1346.36	1583.00	1176	1663
2004-05	4560.15	1425.83	2270.95	1593	1705
2005-06	4901.99	1671.31	2714.88	1624	1796
2006-07	6903.24	3665.71	6058.00	1653	1879

The Deputy Rubber Production Commissioner stated (July 2007) that the decline in area under plantation during 2003-04 was due to adjustment of 442.43 hectares of rubber plantation damaged in natural calamities (cyclone, wild fire, hailstorm, landslide, wild animal menace etc.) during the period from 1980 to 2003. The sharp increase in 2006-07 was due to inclusion of 1337.83 hectares of plantation previously excluded during the period 1980 to 2006 in respect of the growers who had not been covered under RPD Schemes due to non-fulfillment of stipulated conditions.

As may be seen that the production as well as yield per hectare of rubber increased gradually during the last five years.

2.10.2 Expansion of area under Regional Office, Tripura

In Regional Office, Tripura the rate of expansion in rubber plantation during 2002-07 were as shown below:

Year	Total area *up to* previous year (hectare)	Growth during the year (hectare)	Total area (hectare)	*Percentage* of growth
2002-03	10954.97	286.83	11241.80	2.61
2003-04	11241.80	269.36	11511.16	2.40
2004-05	11511.16	602.93	12114.09	5.24
2005-06	12114.09	1225.09	13339.18	10.11
2006-07	13339.18	1838.37	15177.55	13.78

As may be seen there has been consistent increase in area under rubber plantation under RO Tripura.

2.10.3 Distribution of planting materials

For distribution of quality planting materials the Board was maintaining six nurseries in North-East region. Of these, one nursery was closed during X Plan period. Audit noticed that:

- The regional nurseries could cater to only 28 *per cent* of the demand of growers. During 2002-07, the nurseries could distribute 4.34 lakh plants (budded stumps) to the growers against the total requirement of 15.55 lakh and thus the balance 11.21 lakh were distributed by procurement from private parties (8.28 lakh), by making arrangement from other sources like sister units/Head Offices, etc., (1.25 lakh) and growers' own arrangement (1.68 lakh).

- There was no Regional Nursery functioning under Regional Office Tripura. The demand of planting materials by the growers was met from private nurseries. During 2002-03, the Regional Office supplied to the growers 1.58 lakh planting materials from other sources but during 2004-05 to 2006-07 no planting materials were provided by the Regional Office. There was no quality control system to ensure the quality of the planting materials supplied by the private nurseries to the growers.

2.10.4 Group planting scheme

Group planting scheme was aimed at providing assistance to all categories of beneficiaries under Group Planting for land development, establishment of high yielding planting materials, establishment of leguminous cover crop, application of fertilizer, providing fencing and plant protection measures during 2002-07. There was a provision for granting assistance of Rs. 20,000 and Rs. 15,000 per hectare for SC/ST and General category of growers respectively under group planting scheme in addition to the subsidy under Rubber Production Development (RPD) Scheme. Audit noticed as under:

- The scheme was not implemented by Regional Office, Guwahati during 2002-03 and 2003-04 due to delayed approval of the scheme.
- Against the annual target of 300 hectares, the achievement during 2004-05, 2005-06 and 2006-07 was 77.55 hectares, 157.11 hectares and 328.76 hectares respectively. The *percentage* of shortfall during 2004-05 and 2005-06 was 74 and 48 respectively.
- The target of rubber plantation under Group planting for Tripura Zone was 600 hectares in X Plan period, whereas 1460.01 hectares of land had been planted during 2002-07 under Regional Office, Tripura itself. It exceeded the target set for Tripura zone by 860.01 hectares.

2.10.5 Inadequate field visit

RPD scheme stipulates that plantations under the scheme would be visited by Board's technical officers once or twice during first year and once during each of the subsequent years to extend necessary advisory and extension support to the permit holders.

Details of field visits conducted during 2002-07 in Regional Offices Guwahati and Tripura based on monthly abstracts were as given in **Annex VI**.

While significant shortfall of 55 *per cent* in field visits by officials of Regional Office Guwahati was noticed during 2004-05. The overall shortfall in field visits during Plan period remained 23 *per cent.* In case of Regional Office, Tripura, it was noticed that out of 40466 visits required during 2002-03 to 2006-07, only 23221 visits were made resulting in overall shortfall of 43 *per cent.* Year wise shortfall ranged from 31 to 55 *per cent.* Inadequate field visits resulted in lack of advisory and extension support to the growers.

Recommendation

- *Adequate extension support of technical officers should be provided to the growers.*

2.10.6 Financial assistance to demonstration plots

As per assistance for Demonstration of Agro-Management Practices in North-East Region, 500 Demonstration Plots for Controlled Upward Tapping (CUT) and 1000 demonstration plot in Farmer's fields under regular tapping for Soil and Moisture Conservation (SMC) were to be set up in Guwahati Zone during X Plan period. Financial assistance of Rs. 2700 per plot per year under CUT and Rs. 10 per pit limited to maximum of Rs. 1500 under SMC were available for the two programmes.

Scrutiny of records revealed that:

- None of the programmes was set up in Regional Office, Guwahati. The Deputy Rubber Production Commissioner stated that 'CUT/SMC' was not feasible in an extensive way in a place in rudimentary stage of rubber cultivation. This clearly indicated that the scheme was formulated without taking into consideration the feasibility of its implementation.
- In Regional Office, Tripura 500 demonstration plots were to be set-up under SMC during X Plan period. Though Rs. 3.58 lakh was paid to farmers during 2004-05 to 2006-07, no records were maintained for the number of pits taken/used for demonstration for which financial assistance was given.

2.11 Working of Rubber Research Institute of India

The Board established Rubber Research Institute of India (RRII) in 1955 with Headquarters at Kottayam. The main research farm with Central Experimental Station (CES) of RRII is located in an area of 250 hectares at Chethackal in Pathanamthitta District of Kerala State. There are nine Regional Research Stations (RRSs) across the country situated in Kerala, Tamil Nadu, Assam, Meghalaya and Tripura. RRII conducts research and development works in the field of Plant Breeding, Germplasm Technology, Agronomy and Soil Science, Plant Pathology, Economics and Rubber Technology, etc. The outlay provided for research in X Plan was Rs. 47.75 crore.

2.11.1 Botany Division

The RRII 105 clone released by RRII during 1980 was widely accepted by farming community and as a result more than 90 *per cent* of the area planted in recent years was with this high yielding clone. The clone was widely accepted by all rubber-growing countries and the Rubber Research Institute Malaysia had recommended this clone to their growers.

The Botany Division had been doing research for the development of further high yielding clones and developed RRII 400 series clones, which showed superior yield of 32 to 57 *per cent* higher than the popular clone RRII 105. The RRII supplied bud wood materials of RRII 400 clones for experimental planting to 127 small growers and 5 large growers in 2004-05. Analysis of data over four years of tapping was conducted and four clones RRII 430, 422, 414 and 402 were adjudged as high yielding variety.

It was noticed that the production of RRII 414 and RRII 430 was limited and budded stumps were distributed for popularizing these among growers. The commercial production of these plants in the nurseries of the Board had not commenced in full swing.

Though the 400 series released during 2005 was also widely accepted by growers, the Board has not, yet, taken patents for these two clones. In the absence of a valid patent for these clones, the country is not only losing the royalty for use of these clones in other countries but there is also risk of another country claiming patent for the clones, which were developed by the Board after decades of research.

2.11.2 Germplasm Division

Introduction, conservation, characterisation and evaluation of germplasm were the main research activities of the Division. Forty-one selected accessions from 1981 wild germplasm collections received from Malaysian Rubber Board through the National Bureau of Plant Genetic Resources, New Delhi were evaluated in different agro climates in the traditional rubber growing regions and the non-traditional regions. Of the 41 accessions, 24 accessions were successfully multiplied in the Central Experimental Station, Chethackal and were evaluated further. The RRII was carrying out conservation of germplasm for the last several years. As at the end of X Plan period, field planting of 701 wild accessions was completed and were evaluated further for drought tolerance, growth characters, cold tolerance, and timber, latex traits, etc. The final results of these studies were, however, not finalized (July 2007).

2.11.3 Bio-technology Division

Tapping Panel Dryness

Tapping Panel Dryness (TPD) is a physiological disorder affecting high yielding rubber trees that reduces rubber production in plantation. Observations have revealed that over exploitation leads to internal stress and thus certain trees succumb to TPD. Studies have ruled out the presence of bacteria, fungi, mycoplasma and protozoa as causative factors for TPD. Some of the symptoms are clone specific and the RRII 105 clone exhibited the maximum variety of symptoms. TPD was observed in plantation for decades. RRII had been given a pivotal role in coordinating an internal research programme on TPD. Even though some molecular and biological and histochemical studies had been undertaken by RRII, no specific recommendations had been finalized and passed on to the growers. The physiological disorder remained unsolved even after decades of research.

Exploitation studies

Low Frequency Tapping (LFT) in various agro-climatic regions showed increased yield of two tonnes per hectare with very low cumulative Tapping Panel Dryness of around 5 *per cent*. In addition to good yield and low TPD, adoption of LFT ensures considerable cost reduction and provides solution for increased tapper shortage problems. The LFT technique developed by the Rubber Research Institute of India had not been popularized among the growers as only 20000 (4.4 *per cent*) hectares of tapped areas had adopted the method against 454000 hectares of tapped area, at the end of X Plan period.

2.11.4 Regional Research Station, Guwahati.

A central research laboratory at the Regional Research Station (RRS) Rubber Board, Guwahati was established in 1985 with a view to monitoring the activities mainly on the research projects of crop management, crop improvement, and crop protection and exploitation technology. There is one research farm at Sarutari (in Kamrup District) functioning under RRS, Guwahati.

Scrutiny of records revealed that 14 activities under four major projects (i) Crop Improvement (ii) Crop Management (iii) Crop Protections and (iv) Exploitation Studies were undertaken by the Regional Research Station, Guwahati since 1985. Out of these 14 activities, seven were completed as of 31 March 2007 with fruitful results. Two activities on study on variation in cutting length of budded stumps and its effect on sprouting success and subsequent growth vigor, and a study on different sizes and alternative source of poly bagging on growth and development of poly-bagged plants, under Crop Management started in 2004 and completed in 2005 made no recommendations. Research findings of seven activities have not yet been standardized for application till June 2007.

Recommendations

- *RRII should take patents for all clones and technologies of commercial importance released by the Institute.*
- *The Board should make concerted efforts to popularize Low Frequency Tapping among the growers by strengthening extension activities.*
- *The Board should tackle the problem of Tapping Panel Dryness in a comprehensive and holistic manner and evolve research-based strategies to contain it as this is the most important problem causing not only heavy loss to the growers but would also affect the productivity of Natural Rubber.*

2.12 Formation of Rubber Producers Co-operative Societies

2.12.1 From 1980 onwards, the Board had been promoting grass root level organization of farmers at village level by forming Rubber Producers' Societies (RPS) with the objective of providing better services to farmers. The Board distributed planting materials and plantation inputs such as rain guarding plastics, rain guarding compounds, copper sulphate and fungicides through these societies and provided financial and technical assistance for setting up of infrastructure and capacity building. As at the end of IX Plan Period, the Board had formed 2180 RPS including 35 model RPSs.

During X Plan, the Board had fixed a target to set up 500 RPS. Only 72 RPS were set up resulting in shortfall of 428 RPS. As RPS was a vital link between growers and Board, the need for setting up of RPS in all areas where they do not exist should have been addressed effectively.

2.12.2 The Board had formulated the scheme for grant of financial assistance to RPS/Co-operative societies for setting up of group processing centres, latex collection centres, smoke houses, effluent treatment system and training facilities for improving quality of rubber. Audit noticed as follows.

- During X Plan, the Board had disbursed Rs. 10.10 crore to 202 RPS for the purpose. Twenty five of these RPS to whom assistance of Rs. 1.07 crore was released during October 2003 to December 2006 did not complete the work of group processing centres, smoke houses, etc., as of 31 March 2007.
- For setting up of environment friendly, community processing facility by providing aluminum dishes to RPS, the Board proposed to provide assistance to 118 RPS for purchase of 27200 aluminum dishes at an estimated cost of Rs. 20.40 lakh. Only 68 RPS availed of assistance of Rs. 5.76 lakh for purchase of 15400 dishes due to poor response of growers. This indicated that the scheme was not adequately publicized.

Recommendation

- *The Board should accelerate formation of RPSs and provide them necessary support and assistance.*

2.13 Other schemes

2.13.1 Scheme for improving tapping

The Tapping demonstrators attached to the Regional Offices visit plantations and demonstrate to growers the scientific method of tapping. There were 21 regular Tappers' Training Schools including three in North-East maintained by Board at different plantation centres for imparting training to small growers and women. The training programmes are intended mainly for small growers and tappers of small holdings.

During 2002-07, training was imparted to 7967 persons in traditional and non-traditional areas including North-East Region. Apart from tappers training, Board also conducted short term intensive training courses in various practical aspects of scientific tapping with emphasis on improved methods in tapping, processing, rain guarding, etc. During 2002-07, these training programmes were conducted for 43280 persons.

2.13.2 Scheme for extra income generation from Rubber plantation

GOI approved (May 2005) the scheme for providing financial assistance to small rubber growers for establishing bee keeping units in rubber plantations. The Scheme envisaged financial support to 5000 growers at Rs. 2000 per grower for establishing bee keeping units and it was implemented through Self Help Groups (SHGs) and RPS. The Board incurred an expenditure of Rs. 1.14 crore for providing financial assistance to SHGs/RPS, during the year 2005-06 and 2006-07, involving 93 RPS, and 435 SHGs, covering 5814 beneficiaries.

Audit scrutiny revealed that

- The impact of this scheme was yet to be analyzed by the Board (July 2007).
- In Regional Office, Guwahati apiculture was included in the scheme as a component after considering attractive market of honey and identifying rubber tree as an excellent source for honey. The scheme was not, however, implemented.
- In Regional Office, Tripura no training for bee keeping was imparted during the years 2005-06 and 2006-07.

Recommendation

- *The Board should take effective steps to make the scheme more attractive.*

2.13.3 Popularization of low volume sprayers

In order to popularize the use of low volume sprayers, the Board introduced a scheme in 2006-07 with an outlay of Rs. 41.25 lakh. Under the scheme, RPS in the RPS Sector/Rubber Co-operative marketing societies were eligible for financial assistance for the purchase of sprayers/dusters manufactured by the firms approved by the Board. The financial assistance per spraying equipment was limited to 50 *per cent* of actual cost of machine or Rs. 30500 for sprayers cum duster and Rs. 26750 for sprayers without dusting attachment whichever was less. For dusting attachment alone, the assistance was Rs. 6300 or 50 *per cent* of the cost whichever was less. The scheme was introduced at the fag end of X Plan period (February 2007). As a result, the suppliers could not distribute machines in time and many RPS/Companies could not make use of the scheme. Against the target of 150 beneficiaries only 54 beneficiaries availed the benefit involving an assistance of Rs. 15.35 lakh.

2.13.4 Performance of TSR Factory

Model TSR Factory was established during 1995-2000 with a production capacity of about 20 metric tonne natural rubber per day at Manganam near Kottayam. The objective of establishing this model factory was to commercially produce quality natural rubber for customers. Analysis of operating cost, capacity utilization, production trend, etc., of the factory for the last five years was as given in **Annex VII.**

It was observed that the operating cost was continuously increasing every year from Rs. 0.40 lakh per metric tonne in 2002-03 to Rs. 0.90 lakh/ per metric tonne in 2006-07. The installed Production Capacity of the factory per year was 6000 metric tonne whereas the capacity utilization of the factory on average remained below 50 *per cent* during the last five years. During the last five years except 2005-06 the factory was running on loss. The accumulated loss of the factory as on 31 March 2007 was Rs. 1.72 crore.

While there was export realization during 2002-03, during 2003-04 to 2006-07 sales was mainly local. The operational inefficiencies had created a vicious cycle and unless a model factory can demonstrate both technological superiority and economic viability it cannot evoke confidence of entrepreneur.

Recommendation

➢ *The Board should take effective steps for improving the working of the factory.*

2.13.5 Rubber Parks

In order to improve the marketability of natural rubber and increase value addition by setting up rubber product manufacturing industries, the Board in association with Tripura Industrial Development Corporation and Tamil Nadu Industrial Development Corporation, embarked on setting up of Rubber Park in the respective States.

The total cost of the project (Rs. 7 crore) in Tripura, would be financed to the extent of 80 *per cent* by ASIDE[3] State component, and 20 *per cent* by the Board of the AISDE Central component. The share of the Board amounting to Rs. 1.40 crore was made available to Tripura Industrial Development Corporation during March 2007.

Even though the project at Tripura was sanctioned in November 2004 and funds were made available under the ASIDE Scheme, the project is yet to commence.

The Tamil Nadu project was approved by the Department of Commerce in July 2005 with a capital outlay of Rs. 14.52 crore. Of this, Rs. 4.15 crore and

[3] Assistance to states for developing export Infrastructure and allied activities

Rs. 3.55 crore shall be ASIDE state component and ASIDE Central Component respectively. The balance shall be equity from private promoters (28 *per cent*), Equity participation by TIDCO (3.37 *per cent*) and the rest from Banks.

Even though the funds and the land identified had been transferred to the implementing agency, this project is also yet to commence.

Recommendation

- *The Board should take effective steps for the speedy setting up of the Rubber Park.*

Acknowledgement

We acknowledge the co-operation and assistance rendered by the Board to Audit during the course of this performance audit.

The matter was referred to the Ministry in November 2007; their reply was awaited as of December 2007.

Annex I

(Referred to in paragraph 2.6.1)

Production and yield of natural rubber during X Plan

Year	Area under rubber cultivation in lakh hectares	Tapped area in lakh Hectares	Production in thousand tonnes	Yield (Kg/Ha)
2002-03	5.70	4.08	649	1592
2003-04	5.74	4.28	712	1663
2004-05	5.78	4.40	750	1705
2005-06	5.81	4.47	803	1796
2006-07	5. 84	4.54	853	1879*

*Provisional

Annex II

(Referred to in paragraph 2.8.2)

Agro inputs indented, ordered, supplied and shortfall

Name of Item	Quantity required by ROs	Quantity ordered	Quantity supplied	Short fall	Quantity required by ROs	Quantity ordered	Quantity supplied	Short fall
	2005-2006				2006-2007			
Copper oxy chloride (MT)	38.98	38.272	38.272	0	29.7	75	71.38	3.62
Spray oil (KL)	191.141	188.580	188.370	0.210	144.270	378	377.37	0.63
Copper sulphate (MT)	128.581	50.00	32.100	17.90	124.20	125	0	125.00
Rain guard plastic (MT)	247.082	150	63.965	86.035	155.972	180	181.9	0
Rain guarding compound (MT)	700.041	440	377.300	62.700	383.980	455	443.375	11.625

Annex III

(Referred to in paragraph 2.8.3)

Table- A

Target and achievement of production of planting material by nurseries in numbers

Year	Target			Achievement		
	GBS[4]	BBS[5]	Total	GBS	BBS	Total
2002	170000	673500	843500	198618	693326	891944
2003	125000	392208	517208	148116	385930	534046
2004	200000	580000	780000	217389	509894	727283
2005	174400	612000	786400	164718	613561	778279
2006	52500	595000	647500	61868	555708	617576
Total			**3574608**			**3549128**

Table- B

Demand and supply of planting material in numbers

Name of Regional Office	Requirement/demand from growers	Supply from Regional Office	Shortfall	*Percentage* of shortfall
Thiruvanathapuram	577379	22775	554604	96
Changanassery	228671	112059	116612	51
Erattupettah	394065	72720	321345	81.5
Pala	861385	94718	766667	89
Ernakulam	58000	26393	31607	54
Kothamangalam	995770	39714	956056	96
Palakkad	1230225	350551	879674	72
Adoor	713390	57205	656185	92
Marthandam	1300000	3725	1296275	99.72
Mangalore	1410000	310435	1099565	78
Total	**7768885**	**1090295**	**6678590**	

Table- C

Utilization of area in nurseries

Year	No. of nurseries Traditional/NT	Total available area (hectares)	Area utilized (hectares)	*Percentage* of under-utilization
2002-03	13	69.75	35.33	50
2003-04	13	69.75	27.35	61
2004-05	12	67.75	25.65	62
2005-06	13	71.75	44.73	38
2006-07	11	64.15	34.87	46

[4] Green Budded Stumps
[5] Brown Budded Stumps

Annex IV

(Referred to in paragraph 2.8.4)

Disposal of applications for assistance under RPD scheme

Details	2002-03	2003-04	2004-05	2005-06	2006-07	Total
Number of applications received	12257	14699	17302	26191	30676	101125
Area (hectares)	9038	10112	11437	15170	17520	63277
Number of permits issued	9119	11396	11251	14829	16767	63362
Area (hectares)	6465	6909	6630	7176	8276	35456

Annex V

(Referred to in paragraph 2.9)

Expansion of rubber plantation in non-tradition areas in hectares

State	2002-03		2003-04		2004-05		2005-06		2006-07	
	General	SC/ ST	General	SC/ ST	General	SC/ ST	General	SC/ ST	General	SC/ ST
Karnataka	20044	250	20210	250	20939	250	22903	250	25702	250
Goa	870	0	755	0	761	0	704	0	739	0
Andaman & Nicobar	960	0	962	0	843	0	762	0	762	0
Orissa	328	225	256	225	231	225	233	232	233	287
Maharashtra	200	0	182	0	152	0	149	0	149	0
West Bengal	494	0	461	0	473	0	523	0	537	0
Andhra Pradesh	27	82	26	98	26	98	9	98	13	98
Total	**22923**	**557**	**22852**	**573**	**23425**	**573**	**25283**	**580**	**28135**	**635**

Annex VI

(Referred to in paragraph 2.10.5)

Details of field visits

Regional Office, Guwahati

Year	Total cases under RPD	Total visits conducted	Shortfall (*percentage* in bracket)
2002-03	3898	3070	828(21)
2003-04	4018	4281	-
2004-05	3976	1777	2199(55)
2005-06	4668	4493	175(4)
2006-07	5516	4812	704(13)

Regional Office, Tripura

Year	Total cases under RPD	Total visits conducted	Shortfall (*percentage* in bracket)
2002-03	8646	5467	3179 (37)
2003-04	9231	5148	4083 (44)
2004-05	7095	3819	3276 (46)
2005-06	8104	3672	4432 (55)
2006-07	7390	5115	2275 (31)
Total	**40466**	**23221**	**17245 (43)**

Annex VII

(Referred to in paragraph 2.13.4)

Performance of TSR Factory

Parameters	2002-03	2003-04	2004-05	2005-06	2006-07
Production(in tonnes)	2081.27	2512.10	2278.90	3188.10	2719.37
Percentage of Capacity utilization	34.69	41.87	38.00	53.14	45.32
Material consumed (Rupees in lakh)	645.28	1121.53	1103.88	1922.35	2249.41
Other direct and indirect expenses (Rupees in lakh)	117.90	130.50	131.11	176.68	161.66
Sales (Rupees in lakh)	724.47	1283.79	1215.86	2134.95	2326.21
Depreciation /preliminary expenses (Rupees in lakh)	65.72	60.53	55.63	58.09	47.43
Capital- GOI Grant (Rupees in lakh)	1274.94	1301.56	1320.79	1351.36	1382.08
Cost of production per MT (Rupees in lakh)	0.40	0.52	0.56	0.67	0.90
Net profit after adjustment (Rupees in lakh)				1.74	
Loss (Rupees. in lakh)	16.86	4.68	74.44		5.95
Export incentive (Rupees in lakh)	1.68	-	-	-	-

MINISTRY OF HUMAN RESOURCE DEVELOPMENT

INDIRA GANDHI NATIONAL OPEN UNIVERSITY

CHAPTER III : MINISTRY OF HUMAN RESOURCE DEVELOPMENT

3. Indira Gandhi National Open University

Highlights

- IGNOU did not carry out comprehensive need assessment studies to assess the firm demand before introduction of new programmes resulting in low success rates of new programmes. IGNOU did not carry out regular revision of programmes impacting on the overall quality of programmes and resulting in decline in enrolments in some popular programmes.

- There were delays in dispatch of study material and declaration of results resulting in inconvenience to students.

- Placement services offered by IGNOU were ineffective and could not meet the objective of assisting the students to secure appropriate jobs.

- Despite an expenditure of Rs. 33.38 crore on setting up and operation of Gyan Vani stations, their utilisation was far below the available programme hours.

- Gyan Darshan channels can only be viewed by students in regional and study centers. IGNOU's inability to ensure the telecast of Gyan Darshan channels by popular media service providers resulted in low viewership. Teleconferencing facility has not been utilized to the full extent due to poor response from students and lack of facilities in 1145 study centers.

- Distance Education Council's (DEC) regulation of Open and Distance Learning (ODL) system in State Open Universities (SOUs) and Correspondence Course Institutes (CCIs) was not effective. Many universities continue to offer programmes to students without getting DEC's approval.

- Despite release of grants worth Rs. 77.46 crore to 13 State Open Universities and 68 Correspondence Course Institutes, most of the programmes of State Open Universities and Correspondence Course Institutes remained unapproved by DEC.

- Execution and expenditure on plan schemes such as establishment of national network of open and distance education, establishment of national center for innovation in distance education and schemes for disadvantaged groups and regions was negligible resulting in non-achievement of objectives.

- **IGNOU suffered a loss of interest of Rs. 3.75 crore due to injudicious investments.**

Summary of recommendations

- **The procedures followed by IGNOU during programme development should be strengthened in order to ensure sustainable enrolment and continued relevance to students.**
- **Revision of courses should be carried out at regular intervals to ensure contemporariness of courses and unpopular programmes should be discontinued after assessing their utility *vis-à-vis* benefit to students.**
- **Placement cell should improve its working by establishing effective liaison with private placement agencies and hold regular placement drives in the campus, and assist the students in getting appropriate jobs.**
- **Proper monitoring of Gyan Darshan channels in terms of telecast by cable operators and their utility among students needs to be ensured. Teleconference facilities should be made available at all regional centers and study centers and utilisation of this facility should be encouraged amongst students so that students can benefit through instant response to their doubts and queries from experts and professors at headquarters.**
- **DEC should establish and follow procedures to ensure that its regulatory authority and powers of approval for introduction of programmes over all institutions offering education through distance mode are established effectively with a view to assuring appropriate standards of distance education.**
- **Timely and effective utilisation of plan funds should be ensured in order to extend the intended benefits to the target groups. Management controls over investments of surplus funds should be tightened and matter of interest loss should be taken up with the respective banks.**

3.1 Introduction

The Indira Gandhi National Open University (IGNOU) was established in 1985 with the following objectives:

- strengthen and diversify offerings of degree, diploma and certificate programmes related to the needs of employment as necessary for building the economy of the country;
- provide opportunities for higher education to a large cross-section of people, in particular the disadvantaged segments of society;

- promote acquisition and upgradation of knowledge and offer opportunities for training and retraining in the context of innovation and research;
- coordinate, promote, assess and accredit open and distance learning systems to determine the standards.

IGNOU offers 129 programmes, which include programmes that are purely academic as well as those that are predominantly vocational. The instructional approach includes self-instructional study material in print, audio and video cassettes, CDs, radio lectures, TV programmes etc. Some programmes have practical laboratory work as part of the learning components. Admissions are offered in two cycles commencing January and July every year. IGNOU follows a two-tier system of evaluation i.e continuous assessment as well as term-end examinations.

IGNOU is the nodal agency for coordinating a bouquet of four educational TV channels under the banner "Gyan Darshan". These channels are used for telecasting higher education programmes, telecounselling, tele-lecturing etc. IGNOU is also the nodal agency to establish, maintain and operate Gyan Vani FM radio stations for the dissemination of education and information. It operates through 26 FM stations as of May 2007.

DEC is a unit of IGNOU, which is responsible for promotion, coordination and maintenance of the standards in the ODL system in the country. It provides support to State Open Universities and Correspondence Course Institutes for infrastructure and institutional reforms, besides academic improvement. Its other function is the determination of standards, which it exercises through recognition/approval of institutions and programmes in distance education.

3.2 Organisational set-up

The Vice-Chancellor, appointed by the President of India, heads the University. The Board of Management is the principal executive body of IGNOU. The Academic Council, Planning Board, Finance Committee and DEC assist the Vice chancellor. IGNOU has 11 schools of studies and 11 divisions at its headquarters through which it conducts its business. The schools of studies are responsible for the design and development of academic programmes and the norms of delivery of the programmes. The divisions are responsible for administrative functions such as library and documentation, finance and accounts, material production and distribution, student registration and evaluation etc.

IGNOU has a number of field formations. As of July 2007, it had 34 regional centers, five sub-regional centers and 25 armed forces regional centers. The functions of regional centers are mainly administrative. They deal with admission, evaluation, redressal of students' grievances etc. Each regional center is linked to a number of study centers. Study centers are the points of interface between IGNOU and its students. Facilities offered at the study centers include subject specific academic counselling, audio, video and teleconferencing, library consultation, submission and evaluation of assignments etc. There are 1505 study centers all over the country.

3.3 Scope of audit

The audit of IGNOU is conducted under Section 19(2) of CAG's Duties, Powers and Conditions of Service Act, 1971. The performance audit of the University was conducted for the period 2002-03 to 2006-07.

3.4 Audit objectives

The performance audit of IGNOU was conducted to assess that:

- the different programmes offered were planned and executed efficiently and effectively, resulting in achievement of goals enshrined in the IGNOU act;
- the process of introduction of new programmes and the efficiency and efficacy of delivery of new programmes was consistent with the norms;
- the delivery of programmes including, *inter-alia*, the process of admission, supply of course material, conduct of examinations and the announcement of results were efficient in terms of timeliness;
- the educational TV and radio channels were effective in achieving their objectives;
- DEC has determined and applied the standards of distance education consistently and the financial assistance extended by it has achieved the objectives; and
- the financial management resulted in economic, efficient and effective utilisation of resources;

3.5 Audit criteria/indicators

Following criteria/indicators were taken into account for testing the hypothesis for satisfactory performance:

- The goals laid down in IGNOU Act;
- The prescribed procedures and norms for introduction of new programme;
- Time schedule prescribed for dispatch of course material, declaration of result etc;
- Viewership/ listenership data of Gyan Vani and Gyan Darshan channels and feedback from students;
- Standards set by DEC in regulating ODL system as per IGNOU Act.

- Finance code of IGNOU and generally accepted financial management norms.

3.6 Audit findings

3.6.1 Academic performance and management

The mandate of IGNOU is to widen the access to higher education by offering high quality innovative and need-based programmes at different levels, especially to the disadvantaged segments of society at affordable costs by using a variety of media and technology. Academic performance and management of IGNOU were evaluated with reference to the aforementioned objectives. The following findings emerged:

3.6.2 Introduction of new programmes

IGNOU follows a four-phase programme approval process for launching new programmes. **Annex I** summarises the different stages in programme approval process.

The academic programme committee of IGNOU took a policy decision in August 2002 that need assessment study should be conducted by the schools in association with the Planning and Development Division before submitting the Phase 2 form. Examination of 45 new programmes introduced by IGNOU during 2001-06 disclosed the following:

- The schools and planning division did not carry out comprehensive need assessment studies to assess the demand, socio-economic and demographic features of target population, their educational background, employment opportunities available for learners who complete the programme and experiences of other institutions offering similar courses in any of the 45 programmes before introducing the programmes.
- Out of the 45 programmes introduced during 2001-06, 29 programmes were running for two or more years. The comparison of the average enrolment of students during 2002 to 2006 to the targeted enrolment in these 29 programmes revealed that in 8 programmes enrolment was in the range of 5.15 to 29.92 *per cent* and the average enrolment in all the 8 programmes was 18.11 *per cent* of the target as given in table 1 below:

Table 1: Targeted and actual enrolment

Sl. No	Name of the programme	Year of introduction	Targeted enrolment for one year	Average enrolment during 2002-06	*Percentage* of average to targeted enrolment
1	Certificate in Laboratory Techniques (CPLT)	2001	2000	276	13.80
2	Post Graduate Certificate Programme in Participatory Management of Displacement, Resettlement & Rehabilitation (PGCMRR)	2001	500	82	16.40

Sl. No	Name of the programme	Year of introduction	Targeted enrolment for one year	Average enrolment during 2002-06	*Percentage* of average to targeted enrolment
3	Post Graduate Diploma in Library Automation & Networking (PGDLAN)	2004	600 to 800	119	19.83
4	Post Graduate Diploma in Audio Programme Production (PGDAPP)	2004	2000	121	6.05
5	Master of Arts (Public Administration)	2005	5000	1496	29.92
6	Post Graduate Diploma in Intellectual Property Right (PGDIPR)	2004	500	101	20.20
7	Diploma in Computer Integrated Manufacturing (DCIM)	2005	500	75	15.00
8	Post Graduate Certificate in copy editing and proof reading (PGCCP)	2005	2000	103	5.15
Total			**13100**	**2373**	**18.11**

- IGNOU did not develop programmes in the emerging disciplines such as Biotechnology, Bio-informatics and Telecommunication envisaged for introduction during the X Plan.
- Four programmes introduced during the above period were discontinued due to low enrolment, which is attributable to their introduction without adequate survey and assessment. The programmes discontinued were Commonwealth Executive Master of Business Administration (CEMBA), Commonwealth Executive Master of Public Administration (CEMPA), Certificate in Rural Surgery (CRS) and Certificate in Health and Environment (CHE). In CRS and CHE programmes the average enrolment was 14 and 55 against the target enrolment of 200. In CEMBA and CEMPA programmes no target enrolment was identified by IGNOU and the average enrolment was 57 and 4 respectively. High programme fees, inadequate support services and non-provisioning of infrastructure such as laboratories were the reasons identified for low enrolment and early discontinuation of these programmes. Early discontinuation of the programmes affects the image of IGNOU to offer quality programmes on sustainable basis.

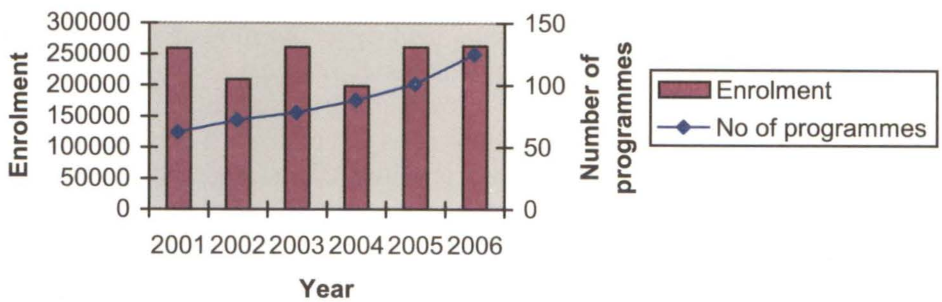
The university has made no efforts to identify reasons for low success of the above new programmes. Low enrolments are not just symptomatic of inadequate need assessment but also indicative of the ineffectiveness of the University's procedures dealing with the introduction of new programmes leading to low success rates of these programmes.

3.6.3 Execution of programmes

3.6.3.1 Growth of programmes and enrolment

The number of programmes offered by IGNOU increased from 62 in 2001 to 129 in 2007. Though the number of programmes offered more than doubled, the total enrolment of fresh students declined from 2.59 lakh in 2001 to 1.99 lakh in 2004 rising again to 2.63 lakh in 2006. Thus, the total fresh enrolment either declined or did not increase with reference to the increase in the number of programmes. **Chart 1** below gives the year-wise details:

Chart 1: Year-wise enrolment and number of programmes



Analysis of programme wise enrolment of data of the programmes offered by IGNOU revealed that:

- Two programmes namely Master of Arts (Distance Education) and B. Tech. Civil (Water Resource Engineering) attracted very few enrolments ranging between 40 and 128 every year.
- There was more than 50 *per cent* decline in the fresh enrolments in eight programmes during 2001 to 2006. Table 2 below gives the details:

Table 2: Decline in enrolment in programmes

Sl. No.	Programme code	Enrolment during 2001	Enrolment during 2006	Decline in enrolment *vis a vis* enrolment in 2001(in *per cent*)
1	Post Graduate Diploma in Distance Education (PGDDE)	610	283	53.61
2	Master of Business Administration (MBA)	19274	8653	55.11
3	Master in Computer Applications (MCA)	25665	8355	67.45
4	Certificate in Participatory Forest Management (CPFM)	210	42	80.00
5	Master of Business Administration (Banking and Finance) (MBF)	2011	265	86.82
6	Certificate in Participatory Project Planning (SAVINI)	213	23	89.20
7	Certificate in Computing (CIC)	79543	7940	90.02
8	Certificate in Empowering Women through Self Help Groups (CWDL)	2387	143	94.00

The above data indicates that there was a steep decline in enrolment in popular programmes such as Master of Business Administration, Master of Computer Application, Certificate in Computing, Master of Business Administration

(Banking and Finance) etc. These programmes are popular job oriented programmes with high market potential. Low enrolment is indicative of the decline in brand image of IGNOU degrees and also inefficient management of these programmes.

Evaluation and feedback studies on programmes offered by IGNOU are a function of Planning and Development Division. No study was conducted by the division to assess the low enrolment/decline in enrolment in various programmes. The Planning Division stated in June 2007 that feedback studies were primarily the responsibility of the Schools of Studies and that the Planning Division looked only at the macro level for policy. It further added that one of the reasons for declining enrolment was that State Open Universities and Correspondence Course Institutes are offering IGNOU's programmes in regional languages. The reply of the Planning and Development Division is not tenable as review and feedback on programmes provide important input for deciding on continuation/improvement/ discontinuation of a programme and should not be left at the sole initiative of the Schools. Without obtaining feedback on programmes, the policy making body cannot effectively streamline and deliver new programmes.

3.6.3.2 Revision of programmes

Regular/periodic revision of programmes forms an essential part of quality assurance system in education to keep course material up-to-date. IGNOU has an institutional policy of revision of its programmes every five years. Academic Council of IGNOU resolved in November 2004 that for all courses on offer for more than five years, necessary action was to be taken to revise/update the curriculum, assessments and evaluation scheme, aspects of programme delivery etc. Schools of IGNOU have been made responsible for implementing the policy of revision of programmes. Examination of the implementation of the IGNOU's policy of revision of programmes revealed the following:

- Scrutiny of reports on revision of programmes furnished by the schools disclosed that out of 493 courses that were due for revision in 2006, revision of 183 courses had not been started while revision of 169 courses was in process. 103 courses had been revised and information on the status of 38 programmes was not available. **Annex II** gives the details. The IGNOU Act empowers the Academic Council to exercise supervision over the academic policies of IGNOU, yet its effective control over the implementation policy by respective schools was found deficient. Academic council's role is limited to giving approval for proposals received from Schools for revision of courses. It does not exercise any supervisory or monitoring role to ensure timely revision of courses.
- IGNOU did not revise even the programmes in the fast changing area of Information Technology as required. 14 of the 23 courses of Bachelor in Computer Application and all the four courses of

Certificate in Computing programmes of IGNOU have not been revised although these are due for revision. A study was conducted by IGNOU on Certificate in Computing programme, wherein the students gave feedback that the course content needed regular review and the course material should be concurrent and relevant.

Academic Council stated in July 2007 that it did not oversee the implementation policy of revision of programmes. Reply is not tenable as Academic Council being the apex administrative and decision making body should ensure that courses offered by the University are current, relevant and useful to students.

3.6.3.3 Passing of students

During 2002-06 on an average 2.39 lakh fresh students were enrolled in IGNOU while 76216 students received degree, diplomas and certificates. Table 3 below gives the year-wise details:

Table 3: Number of students completing the programmes

Year	2002	2003	2004	2005	2006
No of students passed	78074	81931	74603	71298	75174

The *percentage* of students who completed their programmes was 31.95 *per cent* of the fresh students enrolled.

IGNOU prescribes different maximum duration ranging between two to six years for completion of its programmes. Examination of the pass out data for 52 programmes expiring in 2006 revealed that students who completed the programme were less than 20 *per cent* in 24 programmes, in the range of 20 to 50 *per cent* in 24 programmes and more than 50 *per cent* in 4 programmes only. Out of the 6.37 lakh students enrolled during 1998 to 2004 in these 52 programmes 2.31 lakh (36.35 *per cent*) completed the programmes and 4.05 lakh (63.65 *per cent*) dropped out without completing the programmes. Further the pass *percentage* in 51 of the 52 programmes (except CIC programme) was only 20.52 *per cent.* **Annex III** gives the details.

3.6.3.4 Placement services

Placement cell of an institution caters to the employment needs of its students spread over different geographical regions pursuing learning in diverse disciplines. Placement cell provides the platform for qualified students of the institutions to meet potential employers for prospecting appropriate jobs that are commensurate with their academic profiles.

IGNOU did not have placement services during the first 18 years of its existence. The placement cell was established in April 2005. Although 71298 and 75174 students passed from IGNOU during 2005 and 2006, the placement cell of IGNOU could place only 24 students through 6 placement drives and 30 students on temporary assignments during April 2005 to December 2006. Out of the 30 students placed on temporary basis, 15 were placed in IGNOU itself.

Thus, the placement service in IGNOU was ineffective in securing appropriate placements to the successful students.

3.6.3.5 Measures to serve the disadvantaged sections of the society

One of the objectives of IGNOU is to provide access to higher education to disadvantaged sections of the population such as SCs, STs, OBCs, minorities, disabled, women, residents of rural/remote areas etc. IGNOU was supposed to undertake the following measures during the X Plan period in order to further this objective. It was observed that:

- A National Center for Innovation in Distance Education (NCIDE) was set up in December 2005 to take up activities such as development of study material in specific regional languages, bridging the gap/deficiency in programmes/courses/study material packages for the disadvantaged groups. The center is yet to develop (September 2007) any programmes/courses/study materials for the disadvantaged groups. NCIDE has only prepared its mission and vision statements and the proposed activities of the center.
- As the open and distance education is the most suitable mode of imparting education to the physically challenged/differently abled, IGNOU proposed to establish a National Center for Differently Abled (NCDA) to enable the differently abled to achieve peak of excellence. Among the important activities proposed for the center was the development of educational, vocational and awareness generating programmes for the disabled and appropriate information and communication technologies and software for education and training in the area of disability. The center became functional only in November 2006 and is yet to undertake the activities proposed.
- IGNOU proposed certain specific measures such as differential fee system favouring the disadvantaged, fee exemption, financial award/scholarship schemes and bank loan schemes to promote the enrolment of disadvantaged groups during the X Plan. IGNOU is yet to implement these measures as of July 2007.

3.6.3.6 Review of performance

While individual schools have statutory status under IGNOU Act and the responsibility to conduct feedback studies on individual programmes, the overall responsibility to review the performance of the university at the macro level lies with the Planning and Development Division. However, over-decentralisation of duties have resulted in neither parties fulfilling their roles. The last review of IGNOU's functioning was conducted during 1998-99 and its report was submitted in 2000. The report highlighted the need for regular revision of programmes, introduction of programmes in emerging disciplines like bio-physics, bio-technology etc., catering to the development needs of disadvantaged groups and regions and improving the delivery mechanism of self instructional study material to students and performance of Material Production and Distribution Division. No action has been initiated by IGNOU on the lapses pointed out by the review committee. Academic Council and Planning Board being the apex centers in the university have not taken any initiatives to review and improve the academic performance of the university. The Planning and Development Division is also not receiving any feedback from the schools for improving the academic performance of IGNOU. Further no study has been conducted by the Planning and Development Division to identify the benefits of the programmes offered by IGNOU to its students.

3.6.4 Delivery of programmes

Programme delivery implies implementation of the programme and courses offered by IGNOU in an effective and efficient manner. It requires active support of other units of IGNOU such as Electronic Media Production Center, Regional Services Division, Material Production Distribution Division and Students Registration and Evaluation Division.

3.6.4.1 Printing and dispatch of study material

The Material Production and Distribution Division is responsible for dispatch of study material to the students. Examination of the functioning of Material Production and Distribution Division disclosed the following:

- **Delay in dispatch of study material**

Dispatch of study material for all the students is centralized at Material Production and Distribution Division. Dispatch records for 43 programmes for January and 67 programmes for July 2006 were test checked.

IGNOU has not established/prescribed any benchmarks to ensure timely dispatch of study material. The procedure followed is *adhoc*. There were delays ranging between 4 to 231 days in seven programmes for the January 2006 session and between 19 to 317 days for 10 programmes for the July 2006 session in the dispatch of study material to students from the scheduled dates as per dispatch schedule prepared by IGNOU. **Annex IV** gives the details.

The main reason for delay of study material was the delay in receipt of students' registration data from Student Registration and Evaluation Division by Material Production and Distribution Division. Material Production and Distribution Division stated in November 2007 that there was no mechanism with it to ensure timely receipt of students' registration data from Students Registration and Evaluation Division. Students Registration and Evaluation Division did not furnish the reasons for delay in submission of students' registration data to Material Production and Distribution Division and measures adopted to control the delay. Delay in receipt of material impacts on the time available with students for the preparation for term end examination. Lack of effective coordination between Material Production and Distribution Division and Students Registration and Evaluation Division results in delay in dispatch of study material, which should be addressed by the university.

- **Excess printing of study material**

Course materials are printed by 11 Schools on the basis of requirements as per stock available, previous year enrolment of students, buffer stock required for sale to state open university/correspondence course institute/international institutes and for distribution to regional centers and study centers. Schools decide on the basis of supporting data by Student Registration and Evaluation Division the requirement/print run. The expenditure on printing of study material during 2002-03 to 2006-07 was Rs. 11.56 crore.

- Test check of printed course material lying in stores with Material Production and Distribution Division disclosed that there was a stock of 1,39,950 sets available for 60 courses against a requirement of only 13,200 sets in January 2007 session. For courses offered in July 2007 session there was a stock of 1,13,280 sets available for 39 courses against requirement of only 18,400 sets. The sets in stock were four to 20 times more than the requirements. The huge stock of study material at the University points to a lack of internal control mechanism by Material Production and Distribution Division resulting in printing of excess material and idle stocks. IGNOU did not initiate measures to control excess printing.
- Only 3.56 lakh prospectus were sold during 2003-04. Despite this IGNOU printed 7.11 lakh prospectus during 2004-05. Only 3.54 lakh prospectus i.e. less than 50 *per cent* were sold during 2004-05, resulting in infructuous expenditure on account of cost of paper and printing amounting to Rs. 58.23 lakh. Prospectus for one year cannot be used again in the subsequent year and hence nearly half of the prospectus were wasted.

Procedures at IGNOU for printing of course material and prospectus did not ensure proper assessment of the actual requirement matched with enrolment data for every academic session, which result in excess holding and waste.

3.6.4.2 Evaluation system for answer scripts and assignments

Examination of the evaluation system of IGNOU revealed the following:

- **Delay in declaration of results**

The Students Registration and Evaluation Division of IGNOU conducts term-end examinations twice a year for all courses in the months of June and December. Audit scrutinized the declaration of results for all the programmes for the period 2002 to 2006 and observed the following:

- IGNOU did not follow a fixed schedule for declaration of the results of each term end examination.
- The results of all the students who appear for a term end examination were not declared together. Results are declared as soon as 50 to 60 *per cent* of the evaluations are received from the evaluators on a date referred to as first date of declaration of results. The first result was declared before the date of filling up of forms for the next term end examination only in 64.89 *per cent* of the cases. Since students are not aware whether they have passed before last date of the filling of the examination forms, IGNOU advises students to fill up forms for the next term end examination without waiting for the results of the first term end examination. Students, who clear their exams before the start of the next term end examination, do not appear in the examinations resulting in infructuous expenditure by IGNOU on making arrangements for the examination. Besides this in 2.59 *per cent* of the cases, the first result was declared after the commencement of the next term end examination. In this case the students still have to appear for the repeat exam despite clearing in the first attempt.

IGNOU stated in November 2006 that it tried to declare results within 60 days after conclusion of the term end examinations. It attributed the delay in declaration of results to factors such as time taken in receiving, processing and dispatch of answers scripts to the evaluators, inadequate number of evaluators and non completion of evaluation work by evaluators in the prescribed time period. Scrutiny of records revealed that the schedule was adhered to only in 8.20 *per cent* of the cases. Thus, inadequate control exercised by the Students Registration and Evaluation Division over receiving, processing, dispatch and evaluation of the answer scripts directly affects the quality of the programme delivery, leads to uncertainty and causes inconvenience to students.

- **Monitoring of assignments**

Evaluation of assignments submitted by students of IGNOU takes place at study centers. To monitor the quality of evaluation of assignments there is a provision in the Manual of Students' Registration and Evaluation that the coordinator of the study center has to pick-up two *per cent* of the evaluated assignments and send it to the Director of school/division concerned at IGNOU headquarters. None of the nine schools received any assignment during 2006-07 from the study centers for monitoring the quality of evaluation of assignments. Thus, both the regional and study centers failed to ensure quality of evaluations and IGNOU had little or no effective control over the quality of evaluation done by paper checkers.

Recommendations

- *The procedures followed by IGNOU for introduction and development of programme should be strengthened in order to ensure introduction of courses actually relevant to students.*

- *Revision of courses should be carried out at regular intervals to ensure contemporariness of courses and unpopular programmes should be discontinued after assessing their utility vis-à-vis benefit to students.*
- *IGNOU should improve procedures for timely dispatch of material and ensure timely declaration of results.*
- *Placement cell should improve its effective liaison with private placement agencies and hold regular placement drives in the campus, cover all students and assist them in getting appropriate jobs.*
- *Controls exercised by the university on the monitoring of assignments were weak and need improvement to give quality assurance.*

3.6.5 Educational TV and Radio channels

3.6.5.1 Gyan Vani (Educational FM channels)

Under the Government of India's scheme for expansion of FM broadcasting service, Ministry of Human Resource Development appointed IGNOU as the nodal agency in August 1999 to develop a network of 40 Radio stations for educational purposes in different parts of the country. It signed a license agreement with the Ministry of Information and Broadcasting in November 2000 to establish, maintain and operate 40 F.M. radio channels called "Gyan Vani" for broadcast of educational programmes and signed a Memorandum of Understanding (MoU) with AIR Resource (Prasar Bharti) in August 2001. According to the MoU, Prasar Bharti was to set up the necessary broadcasting infrastructure i.e. FM Radio (Gyan Vani) stations. Out of 40 stations only 37 stations were considered feasible. An expenditure of Rs. 33.38 crore was incurred by IGNOU on setting up and operation of Gyan Vani during 2002-07. As of May 2007, 26 Gyan Vani FM stations had been commissioned. Following shortcomings were noticed in the functioning of Gyan Vani stations:

3.6.5.2 Delay in commissioning of Gyan Vani stations

Gyan Vani stations were to be commissioned as early as possible after making payment of consultancy and station set up charges and procurement of transmitting equipment etc. Payment of Rs. 17.28 crore was made to Prasar Bharti during 2001-07 for consultancy and station set up charges for 31 stations that were not yet commissioned or commissioned late. 20 stations were commissioned by Prasar Bharti after a delay of one to four years and 11 stations have not been commissioned as of May 2007 after the payment of consultancy and station set-up charges. Remaining six stations were commissioned within nine months after the payments made.

IGNOU stated in December 2006 that the delay was due to late procurement of transmitting equipment.

3.6.5.3 Under utilisation of Gyan Vani FM stations

Gyan Vani FM stations have the technical broadcast capacity of 16 hours a day. Prasar Bharti provides its infrastructure such as tower, building, land and antenna etc. to accommodate, operate and maintain IGNOU's transmitting equipment for which IGNOU pays licence fee at the rates ranging from Rs. 28.14 lakh to Rs. 46.19 lakh per station per annum for 16 hours broadcast a day. During 2001-07, IGNOU paid licence fee of Rs. 21.36 crore to Prasar Bharti. Out of 26 commissioned Gyan Vani FM station as of May 2007, utilization of 21 stations was below the technical broadcast capacity ranging from 4 to 12 hours as shown in **Annex-V**. Hence, IGNOU did not utilize FM stations optimally to disseminate education and information.

IGNOU accepted the under utilization of FM stations and stated that although FM stations had the technical capacity of 16 hours, its utilization was affected due to non-availability of sufficient studio facilities with AIR for transmitting programmes.

3.6.5.4 Un-productive expenditure due to under utilisation of transmitters

Four 10 KW transmitters were procured at a cost of Rs. 1.66 crore and were installed at Varanasi, Raipur, Guwahati and Mumbai Gyan Vani FM stations. A transmitter of 10 KW capacity can provide coverage up to a radius of 70 km. Scrutiny of records revealed that these transmitters are being operated at capacity of 3 KW and below at Varanasi, Raipur, Guwahati due to non-provision of infrastructure by AIR and at Mumbai due to transmitter power module failure. This resulted in low coverage of around 20 km against 70 Km and less coverage of the beneficiaries.

3.6.6 Poor monitoring of Gyan Darshan and ineffective use of teleconferencing

IGNOU is the nodal agency for uplinking/transmission of the bouquet of four educational channels namely, Gyan Darshan-1, 2, 3 and 4. Out of these, IGNOU is utilizing Gyan Darshan-1 and 2. Gyan Darshan-1 telecasts programmes of IGNOU as well as of other institutions such as Indian Institute of Technology, University Grants Commission, National Institute of Open Schooling and National Council of Educational Research and Training etc. Gyan Darshan-2 (teleconference channel) is entirely devoted to interactive distance education. Gyan Darshan-3 and 4 telecast programmes pertaining to technology and higher education, which are devoted to Indian Institute of Technology and University Grants Commision respectively. There was an expenditure of Rs. 8.37 crore during the period 2002-07 on purchase of equipment, programme production, operation of Gyan Darshan and salaries to contract/daily wagers etc.

Though the telecast of Gyan Darshan channel by cable operators was made compulsory vide Gazette notification no.16 (1) cable/2005-E-III dated 25 February 2005, but there was no data/information available with IGNOU regarding viewership of IGNOU students and the actual telecast of these channels by cable operators which indicated lack of monitoring by IGNOU to ensure the utility of Gyan Darshan channels among students and their telecast by cable operators. Test check of channels shown by leading private cable operators and direct to home service providers in the NCR Delhi revealed that none of the Gyan Darshan channels were telecast via direct to home mode or cable networks. Though Gyan Darshan channels were free to air channels, most cable operators do not telecast them due to low viewership. Gyan Darshan-1 is visible only on Doordarshan's direct plus direct to home (DTH) service, which is not very popular service among the viewers. Gyan Darshan-2, 3 and 4 have not been put on DTH mode. The target audiences have to visit the regional centers/study centers to avail the facilities of these channels. In December 2006, IGNOU stated that it provided only uplinking facilities for Gyan Darshan-3 and 4 while for Gyan Darshan-2 they were pursuing the case with Prasar Bharti for its placement on DTH mode. The reply does not address the issue of IGNOU's responsibility to ensure visibility of Gyan Darshan through popular media service providers to facilitate their students and provide easy access to educative programmes broadcast in these channels.

Through teleconferencing viewers can directly access teacher/experts in the studio during an ongoing programme, express their views and clear their doubts regarding specific topic/issues as the programme goes on. Teleconference sessions are telecast for about five hours a day. These sessions relate to some of the important programmes of IGNOU. Gyan Darshan-2 teleconference sessions are accessible at regional centers and study centers through direct receive system and EDUSAT (education satellite) satellite interactive terminals. Though teleconferencing became a regular feature of the student support services at IGNOU, only 34 regional centers out of 39 regional centers including five sub-regional centers and 278 study centers out of 1505 study centers as of July 2007 could be linked by direct receive system and satellite interactive terminals. Thus, this facility could not be extended to all students of IGNOU. Responses received from 702 students in a study conducted by STRIDE[1] in 2005 on 'Benefits derived from distance education' indicated that only 14.5 *per cent* of the students found the teleconferencing facility to be useful. Teleconferencing is an important medium of communication between students and professors in distance education, but the response of the students in the above mentioned study indicates the inability of IGNOU to use this facility efficiently and effectively.

3.6.7 Irregular acquisition of audio-video programmes for Gyan Vani and Gyan Darshan Channels

Electronic Media Production Center (EMPC), IGNOU acquires curriculum based programmes and enrichment and informative audio video programmes from various producers and production houses for broadcast/telecast through Gyan Vani and Gyan Darshan channels. These programmes are approved by audio and video acquisition committees after applying due quality checks. For

[1] Staff Training and Research Institute of Distance Education

the acquisition of video programmes rates of Doordarshan are followed and audio programmes are acquired at the rates ranging between Rs. 6000/- to Rs. 15000/- per programme. 516 audio programmes worth Rs. 52.2 lakh and 357 video programmes worth Rs. 1.64 crore (only enrichment and informative) were acquired by EMPC during the period 2002-03 to 2006-07. EMPC did not follow proper purchase procedures such as making suitable announcements over its network of Gyan Darshan channels, inserting advertisements in leading newspapers, display of advertisements on the notice boards of EMPC, Gyan Vani FM stations, regional centers and study centers and its website for acquiring enrichment and informative programmes. IGNOU does not have an empanelled list of producers for the acquisition of programmes, they are acquired on *adhoc* basis from producers who approach IGNOU. IGNOU needs to address these procedural lapses to bring about more transparency and improve variety and quality of programmes telecast.

3.6.8 Inadequate surveys, research work etc. for determining the popularity and usefulness of Gyan Darshan and Gyan Vani channels

As the nodal agency for Gyan Vani and Gyan Darshan channels, IGNOU was required to conduct surveys, research studies on regular basis to assess the popularity and usefulness of these channels with a view to making mid course corrections.

Education Research and Training unit of EMPC, IGNOU conducted six studies on Gyan Vani at different locations in 2001-02. No studies/surveys were conducted for Gyan Darshan during the period 2001-06. ERT unit conducted one nation wide study each on Gyan Darshan in May 2006 and on Gyan Vani in June 2006. In these studies questionnaires were sent to all regional centers and Gyan Darshan/Gyan Vani stations against which only 49 and 318 responses were received for Gyan Darshan and Gyan Vani respectively. Certain suggestions emerged out of these surveys such as greater publicity to be given to the Gyan Vani channels, need for more innovative/career-oriented programmes, change in timings of Gyan Vani programmes, improvement in the quality of Gyan Vani programmes, introduction of more phone-in-programmes in Gyan Vani, increase in the duration of Gyan Vani transmission, better accountability of Gyan Darshan channels, inclusion of more interactive programmes, production of programmes of Gyan Darshan channel in regional languages. No action has been taken by EMPC so far in respect of these suggestions except taking remedial action to publicise Gyan Darshan and Gyan Vani channels.

Recommendations

- *Proper monitoring of Gyan Darshan channels in terms of telecast by cable operators needs to be ensured and their utility among students needs to be assessed periodically. Teleconference facilities should be made available at all regional centers and study centers.*

- ➢ *In view of the survey findings, IGNOU should attempt to make the content of Gyan Vani and Gyan Darshan channels more relevant to the target audience. IGNOU should conduct nation wide listnership and viewer ship survey to assess relevance of these channels and their utility to target audiences.*

3.7 Distance Education Council

DEC was established in IGNOU in 1991. DEC is empowered under the Statute 28 of IGNOU Act to function as an apex body for the distance education system. It is responsible for promotion, coordination and maintenance of standards of ODL system in the country. In order to fulfill its duties and functions, DEC provides grant to State Open Universities and Correspondence Course Institutes to aid them in improving the quality and standards of distance education. DEC has the mandate to assess and accredit existing and new institutions of ODL. It prescribes standards to determine the minimum level of infrastructure and academic staff for ODL institutions, which offer or intend to offer education through the distance mode. It approves/recognizes programmes offered in distance mode by those State Open Universities/Correspondence Course Institutes who comply with the norms and standards prescribed by it.

DEC receives its funds from the Ministry of Human Resource Development for providing financial assistance to State Open Universities and Correspondence Course Institutes. During 2003-04 to 2006-07 it extended financial assistance of Rs. 77.46 crore to 13 State Open Universities and 68 Correspondence Course Institutes and recognized 519 programmes of 33 State Open Universities/Correspondence Course Institutes up to June 2007. Audit of performance of DEC revealed the following:

3.7.1 Recognition of programmes in distance mode by DEC

The Ministry of Human Resource Development vide its notification of April 1995 stipulated that all the qualifications awarded through distance education stand automatically recognized for the purpose of employment to posts and services under the Union Government, provided it has been approved by DEC, IGNOU. As per DEC guidelines, it is mandatory for all the institutions to seek prior approval of DEC for offering existing and new programme in distance mode. DEC also approves/recognises programmes offered in distance mode by those State Open Universities/Correspondence Course Institutes who comply with the norms and standards prescribed by it. In its annual meeting in March 2007, DEC has taken a decision to henceforth recognize institutes rather than programmes and has delegated the responsibility of approval of programmes to the respective university to which these institutes are affiliated.

Scrutiny revealed that against 2164 programmes of 140 State Open Universities/Correspondence Course Institutes, 519 programmes of 33 State Open Universities/Correspondence Course Institutes were approved by DEC as of June 2007. None of the programmes of 54 Correspondence Course

Institutes offering 733 programmes, which received Rs. 11 crore, were approved by DEC. Out of these 54 Correspondence Course Institutes, 22 Correspondence Course Institutes never applied to DEC for the recognition of their programmes. Thus, the above State Open Universities/Correspondence Course Institutes were running these programmes in distance mode without the approval of DEC.

Offering of programmes in distance mode by institutes without the recognition of DEC is contrary to its mandate. DEC stated in October 2006 that in IGNOU's Act and statute there was no provision by which it could initiate action against the State Open Universities/Correspondence Course Institutes, who did not submit its programmes for approval/recognition. It also stated that in place of resorting to strict enforcement of its norms; it acted on the philosophy of voluntary approval in order to encourage the ODL institutions to grow. While advising State Open Universities and Correspondence Course Institutes to seek approval of their programmes, care had to be exercised to respect their autonomy because education is on the Concurrent List. The reply of DEC is contrary to DEC guidelines which states that it is mandatory for all the institutions to seek prior approval for offering existing and new programmes and the fact of education being in the concurrent list has nothing to do with standards and quality of distance education set by DEC.

Thus, not only the regulation of the system of ODL in the country by DEC was inadequate, its powers of discharging such functions were also inadequate.

3.7.2 Failure to conduct review of the performance of grantee institutions

In accordance with clause 4(a) (xiv) of Statute 28 of the IGNOU Act, it shall be the duty of DEC to appoint review committees from time to time to study and assess the performance of the open universities/distance education institutions participating in the network on any aspect relevant to the functioning of the network of State Open Universities/Correspondence Course Institutes. During the IX plan, grants were released to 45 Correspondence Course Institutes but performance review of only 17 Correspondence Course Institutes had been conducted by DEC as of June 2007. Similarly, 42 Correspondence Course Institutes were released grants in the year 2003-04 but performance review of these Correspondence Course Institutes has not been conducted by DEC even after a lapse of more than three years. DEC also did not conduct the performance review of those Correspondence Course Institutes, which were not given grants by it during the IX and X five year plan though these Correspondence Course Institutes were participating in the network of State Open Universities/Correspondence Course Institutes.

3.7.3 Failure to develop common pool of programmes

Clause 4(a) of section 28 of the IGNOU Act stipulates that DEC would establish and develop arrangements for coordinating and sharing instructional materials prepared by different State Open Universities/Correspondence

Course Institutes with a view to avoiding duplication of efforts and large expenditure on development of self instruction material by these State Open Universities/Correspondence Course Institutes. Accordingly, DEC initiated the common pool of programmes that could be shared by all State Open Universities/Correspondence Course Institutes. The latter were to be encouraged to contribute programmes to the common pool and also to opt for adoption/adaptation/translation of the best programmes and practices after assessment of quality assurance and management. 30 to 50 *per cent* of the grant released by DEC is to be utilised towards development of self instruction materials by State Open Universities/Correspondence Course Institutes. As per the conditions of the grant, State Open Universities/Correspondence Course Institutes are to submit five copies of self instruction material to DEC so that the best self instruction material out of these can be shared with other institutions. It was observed that no programmes were available under the common pool of programmes.

DEC stated in November 2006 that instead of maintaining a centralized physical pool it had facilitated sharing of programmes developed by IGNOU and other State Open Universities among themselves for greater cost effectiveness. As a result, a large number of Correspondence Course Institutes and State Open Universities had adopted/adapted and translated programmes of IGNOU and other State Open Universities. Reply of DEC is not tenable. All the progammes offered by State Open Universities/Correspondence Course Institutes are not adopted from IGNOU and DEC is releasing 30 to 50 *per cent* of grant to State Open Universities/Correspondence Course Institutes for the development of self instruction material. If sufficient programes were available in the common pool and all programmes on offer by State Open Universities/Correspondence Course Institutes were adopted from IGNOU, then the unnecessary expenditure on the development of self instruction material should have been saved. Also the quality and contents of the programmes should have been ensured by adopting best programme from the common pool.

3.7.4 Non-observance of prescribed procedures

The sanction order for development grants issued by the DEC specifies certain conditions to be adhered to by State Open Universities/Correspondence Course Institutes such as submission of audited accounts, detailed statement of expenditure, certified copy of record of assets and five sets of self instruction material prepared out of DEC grant. These documents are required to ensure proper utilization of grants, audit of expenditure, record of assets and self instruction material created out of grants released. Audit scrutiny revealed procedural irregularities such as non-submission of audited accounts, detailed statements of expenditure, certified copy of record of assets and five sets of self instruction material etc. In the absence of these documents, proper utilization of grants by State Open Universities/Correspondence Course Institutes could not be ascertained. **Annex VI** gives the details.

Recommendations

- *DEC should establish and follow procedures to ensure that its regulatory authority and powers of approval for introduction of programmes over all institutions offering education through distance mode is established effectively with a view to assuring appropriate standards of distance education.*
- *DEC should monitor the performance of various grantee institutions in a more effective manner to ensure adherence to the terms governing the sanction of grants as well as achievement of prescribed standards by the grantee institutions.*

3.8 Financial management

3.8.1 Budget and expenditure

IGNOU was established in September 1985 as a project under VII plan and its entire expenditure during the period was met out of plan grants. From the financial year 1990-91 onwards, the University has been preparing separate estimates for plan and non-plan expenditure. On completion of the VIII and IX plan period, the maintenance expenditure in respect of the schemes, programmes completed during the two plan periods, posts sanctioned and the regional and study centers established during that period were transferred to non-plan.

During X plan, an outlay of 510 crore was approved by Expenditure Finance Committee. The share of Government of India was Rs. 380 crore and IGNOU's share was Rs.130 crore. The total receipt of IGNOU under plan and non-plan was Rs. 1099.85 crore and the expenditure was Rs. 894.58 crore. The details of income and expenditure under plan and non-plan during 2002-03 to 2006-07 have been shown in table 4 below:

Table 4 : Details of receipts and expenditure

(Rupees in crore)

Year	Non-Plan		Plan		Total Receipts	Total Expenditure
	Income	Expenditure	Grant	Expenditure		
2002-03	176.37	128.67	10.00	12.07	186.37	140.74
2003-04	143.96	139.50	21.99	25.90	165.95	165.40
2004-05	154.19	133.10	72.44	55.29	226.63	188.39
2005-06	185.98	130.89	48.38	65.70	234.36	196.59
2006-07	191.49	129.93	95.05	73.53	286.54	203.46
Total	**851.99**	**662.09**	**247.86**	**232.49**	**1099.85**	**894.58**

Scrutiny of plan expenditure revealed as under:

3.8.1.1 Plan expenditure

(a) The outlay on system development was Rs. 66 crore. Under this head, expenditure was to be incurred on national network of open and distance education (N-NODE): a three-tier network (Rs. 14 crore), through which all regional centers, study centers and State Open Universities were to be connected with IGNOU. Expenditure on this project was only Rs. 9.40 lakh for payment to regional center. The communication network is yet to be established. Operationalisation of this system would have resulted in savings in total turn around time for the processes of admission evaluation, declaration of results etc. and IGNOU would have real time critical information from regional centers and study centers.

(b) There was an outlay of Rs. 8.50 crore for transformation of print material into HTML mode (150 programme) and establishment of a national center for innovation in distance education (NCIDE). Conversion of print material into HTML mode would have made dispatch of study material to students efficient as well as reduce the expenditure on printing. In addition the entire process of dispatch of study material to students could be decentralized. However, no amount was incurred on both the above schemes as a result of which benefits of these schemes could not materalise.

(c) The plan outlay on schemes of special measures for disadvantaged group and dis-endowed region was Rs. 13 crore of which, only Rs. 1.54 crore was shown to be incurred for disadvantaged groups. However, detailed scrutiny of books revealed that Rs. 1.5 crore had been transferred during 2006-07 to earmarked fund for Rajiv Gandhi project and no expenditure was booked on this project for benefit of disadvantaged groups till March 2007.

(d) The outlay for development of North East project was Rs. 50 crore. The scrutiny revealed that expenditure of Rs. 12.11 crore was incurred for development of North East project. The expenditure was incurred for payment of grants to State Open Universities in North East region, academic, establishment and administrative expenses of regional centers situated in the North East region. IGNOU did not assign any reasons for slow implementation of above schemes.

3.8.2. Investment

Investment in IGNOU for short term deposits was made on the basis of guidelines set by the sub-committee. Some of the recommendations of sub-committee were as follows:

a. Projected cash flow should be worked out.

b. Banks may be given instruction to transfer surplus fund lying in saving bank account to fixed deposit.

c. The amount of investment with any single institution/bank should not exceed Rs. 20 crore at any given point of time.

IGNOU headquarters maintains 29 accounts for transactions of non-plan, plan, security deposits, earmarked funds and sponsored projects. It transfers surplus funds to an investment account opened for the purpose of long term investment. All investments of IGNOU were made through investment account from December 2002 to February 2006. From March 2006 onwards, the investments were made through respective accounts directly.

The funds in saving bank accounts, fixed deposits, cash in hand, bonds etc. available with IGNOU were Rs. 461.60 crore as on 31.03.2007. Investments made up to May 2007 were worth Rs. 311.76 crore. The investment accounts for the period December 2002 to February 2007 were checked.

Scrutiny of investments revealed as follows:

3.8.2.1 Better option of investment not exercised

IGNOU invested Rs 10 crore in March 2004 and Rs. 8 crore in December 2004 for a period of five years in the post office time deposit scheme at the rate of 7.5 *per cent*. It also invested Rs 1.20 crore in February 2005 for seven years in IDBI flexi bonds at the rate of 7.05 *per cent*. It did not consider better options with higher rates of interest such as RBI eight *per cent* bonds – 2003. Consequently, it will suffer interest loss of Rs. 1.34 crore during five years on post office deposits and for seven years on IDBI bonds.

3.8.2.2 Surplus funds not invested timely

Operation of investment account is solely for the purpose of investment of surplus fund. Test check of this account revealed that large amounts ranging from Rs. 0.61 crore to Rs. 73.18 crore were kept in this account for periods ranging from 63 days to 124 days during December 2002 to February 2006. Had IGNOU invested these surplus funds in long term deposits at the rate of 8 *per cent* instead of keeping them parked in savings bank account that earned interest at the rate of 3.5 *per cent*, it would have earned additional interest of Rs. 1.75 crore.

3.8.2.3 Loss of interest due to delay and non receipt of interest

IGNOU invested Rs. 1.6 crore in IDBI bonds in October 2000 and Rs. 10 crore in post office term deposit scheme in March 2004 for five years. Scrutiny revealed that interest of Rs. 38.40 lakh at the rate of Rs. 19.20 lakh annually was not received for the period ending October 2001 and October 2003. Interest on post office term deposit was received late by a period ranging between 148 days to 265 days. Had the interest on the above investments been claimed timely and reinvested again in the same fixed deposits IGNOU would have earned an additional interest of Rs. 26.27 lakh.

IGNOU was not effectively identifying the surplus funds available in different saving bank accounts and monitoring their investments in short/long term investment. This has resulted in loss of interest to the University.

3.8.2.4 Loss of interest on short term deposit/auto sweep

IGNOU has opened two saving accounts with Indian Bank and IDBI banks for its non-plan fund for receiving fees from various IGNOU regional centers and IGNOU Headquarters. It issued instructions to Indian Bank in September 2004 and again in December 2006 that amount in excess of Rs. 3.00 crore and Rs. 50 lakh respectively be kept in short term deposit/auto sweep. IGNOU also issued instructions to IDBI bank that amount in excess of Rs. 2 crore may be invested in FD for 15 days to roll over period in multiples of Rs. 50 lakh.

In spite of giving standing instructions to both the banks amount over and above the threshold limit was not being transferred in short term deposit/auto sweep by banks. Amount of Rs. 1.00 crore to Rs. 7.00 crore remained in saving bank account for period ranging 16 days to 60 days without its transfer in short term deposit/auto sweep. This resulted in loss of interest of Rs. 2.36 lakh during the period 2006-07. Moreover, information in respect of other 27 accounts was not furnished to audit.

Recommendations

- *Timely and effective utilisation of plan funds should be ensured in order to extend the intended benefits to the target groups.*
- *Management controls over investments of surplus funds should be tightened and matter of interest loss should be taken up with the respective banks.*

Acknowledgement

We acknowledge the co-operation and assistance rendered by IGNOU to Audit during the course of this performance audit.

The matter was referred to the Ministry in February 2007 and September 2007; their reply was awaited as of December 2007.

Annex I

(Referred to in paragraph 3.6.2)

Stages in programme approval

Phase	Form	Details	Approving body	Nodal unit
1.	Programme proposal form	Covers scope of the programme, internal expertise available, need analysis of the programme, likely target group, level of programme, medium of instruction, and collaborative arrangements	School Board	The concerned School
2.	Programme concept form	Contains the details of programme structure, delivery schedule, target group, expected enrolment, collaborative arrangements, financial resource generation for the programme and the programme media mix.	Academic Programme Committee Planning Board	Planning & Development Division -do-
3.	Programme design and detailed programme report	Outlines detailed programme structure listing the courses and their nature evaluation methodology, hands on experience/laboratory work and delivery mechanisms	School Board Standing Committee of the Academic Council Academic Council	The concerned School Academic Coordination Division -do-
4.	Programme launch approval form	Indicates the extent of the readiness of the programme for launch. Gives details about whether the course material, programme guide, projects guide/manuals; audio/video programmes and assignments are ready. It also indicates the readiness of support divisions	Academic Programme Committee	Planning and Development Division

Annex II

(Referred to in paragraph 3.6.3.2)

Status of revision of courses

Sl. No.	Name of School/Division	No. of courses revised	No. of courses under revision	No. of courses where revision has not started	No. of courses whose status not available	Total
1	School of Sciences	-	14	24	17	55
2	School of Engineering and Technology	-	12	71	-	83
3	School of Computer and Information Sciences	9	-	18	-	27
4	School of Continuing Education	-	16	7	-	23
5	School of Education	9	17	9	-	35
6	School of Humanities	1	22	24	4	51
7	School of Health Sciences	20	6	-	-	26
8	School of Social Sciences	23	41	30	17	111
9	School of Management Studies	41	31	-	-	72
10	Staff Training and Research Institute of Distance Education	-	10	-	-	10
Total		**103**	**169**	**183**	**38**	**493**

Annex III

(Referred to in paragraph 3.6.3.3)

Details of students passed

Sl. No.	Name of Programme	Students enrolled	Students passed	Percentage of students passed to enrolled
1	Advanced Diploma in Computer Applications	116251	24409	21.00
2	Advanced Diploma in Tourism Studies	51	4	7.84
3	Bachelor of Computer Applications	70389	10616	15.08
4	Bachelor Degree Programme	81343	13647	16.78
5	Bachelor in Education	2310	1779	77.01
6	Bachelor in Information Technology	3094	1305	42.18
7	Bachelor in Library and Information Science	14359	5714	39.79
8	Post Basic Bachelor of Nursing	2447	1127	46.06
9	B. Tech Civil (Construction Management)	2772	501	18.07
10	Bachelor of Arts (Tourism Studies)	7189	930	12.94
11	B. Tech Civil (Water Resource Engineering)	147	43	29.25
12	Certificate in HIV and Family Education	1897	690	36.37
13	Certificate in Consumer Protection	1277	113	8.85
14	Certificate in Disaster Management	4000	1449	36.23
15	Certificate in Environmental Studies	2234	290	12.98
16	Certificate in Food and Nutrition	6475	2137	33.00
17	Certificate in Health and Environment	109	3	2.75
18	Certificate in Human Rights	2467	665	26.96
19	Certificate in Computing	197457	141273	71.55
20	Certificate in Guidance	12450	3793	30.47
21	Certificate in Labour in Development	761	131	17.21
22	Certificate in Nutrition and Child Care	3578	1013	28.31
23	Certificate in Primary Education	3232	1726	53.40
24	Certificate in Participatory Forest Management	766	273	35.64
25	Certificate in Laboratory Techniques	1119	244	21.81
26	Certificate in Rural Development	1246	221	17.74
27	Certificate in Rural Surgery	21	7	33.33
28	Certificate in Teaching of English	10679	1358	12.72
29	Certificate in teaching of Primary School Mathematics	9997	226	2.26
30	Certificate in Empowering Women through Self Help Groups	9361	1317	14.07
31	Certificate in Women's Empowerment and Development	767	173	22.56
32	Diploma in Creative Writing in English	3472	160	4.61
33	Diploma in Creative Writing in Hindi	1204	129	10.71
34	Diploma in Early Childhood Care and Education	4157	1047	25.19
35	Diploma in Hospital and Health Management	1260	636	50.48
36	Diploma in Maternal and Child Health	3305	1574	47.62
37	Diploma in Nutrition and Health Education	6409	1002	15.63

Sl. No.	Name of Programme	Students enrolled	Students passed	Percentage of students passed to enrolled
38	Diploma in Primary Education	218	37	16.97
39	Diploma in Tourism Studies	4678	743	15.88
40	Master of Arts (Distance Education)	257	124	48.25
41	Master of Arts (English)	5078	553	10.89
42	Master of Library and Information Science	3215	1288	40.06
43	Master of Arts (Tourism Management)	3062	473	15.45
44	Post Graduate Certificate Programme in Participatory Management of Displacement, Resettlement and Rehabilitation	349	40	11.46
45	Post Graduate Certificate in Radio Writing	463	109	23.54
46	Post Graduate Diploma in Distance Education	2648	578	21.83
47	Post Graduate Diploma in Higher Education	2374	222	9.35
48	Post Graduate Diploma in International Business Operations	3059	390	12.75
49	Post Graduate Diploma in Rural Development	11497	2538	22.08
50	Post Graduate Diploma in Translation	2492	405	16.25
51	Post Graduate Diploma in Journalism and Mass Communication	6540	1909	29.19
52	Certificate in Participatory Project Planning	594	262	44.11
	Total	**636576**	**231396**	**36.35**

Annex IV

(Referred to in paragraph 3.6.4.1)

Delay in dispatch of study material

Sl. No.	Name of programme	Scheduled date for SRE	Actual Date	Delay for SRE (in days)	Scheduled date for MPDD	Actual Date	Delay in Dispatch
January 2006 session							
1	BDP	16.11.05	02.01.06 to 11.05.06	47 to 176	20.10.05 to 28.11.05	01.01.06 to 22.05.06	34 to 175
2	B.Sc	28.11.05	18.01.06 to 26.04.06	51 to 149	29.11.05 to 31.12.05	22.01.06 to 03.05.06	22 to 123
3	BPP	22.12.05	29.12.05 to 12.03.06	7 to 80	29.11.05 to 31.12.05	04.01.06 to 12.03.06	4 to 67
4	DECE	20.10.05	28.11.05 to 12.07.06	39 to 265	20.10.05 to 28.11.05	09.12.05 to 17.07.06	11 to 231
5	MBA	18.11.05	16.12.05 to 29.06.06	28 to 223	20.10.05 to 28.11.05	15.12.06 to 02.07.06	17 to 216
6	DNHE	20.10.05	28.11.05 to 24.03.06	39 to 155	20.10.05 to 28.11.05	06.12.05 to 27.03.06	8 to 119
7	B.Ed.	11.11.05	21.12.05 to 12.07.06	40 to 243	20.10.05 to 28.11.05	14.12.05 to 17.07.06	16 to 231
July 2006 session							
1	BCA-3,5	25.04.06	26.05.06 to 05.03.07	37 to 314	25.04.06 to 20.05.06	12.06.06 to 05.03.07	23 to 289
2	MCA-2	25.04.06	31.05.06 to 02.03.07	36 to 305	25.04.06 to 20.05.06	12.06.06 to 03.04.07	23 to 318
3	CIC	21.06.06	13.07.06 to 11.09.06	22 to 82	21.06.06 to 28.06.06	17.07.06 to 09.10.06	19 to 103
4	MEG-2	25.04.06	31.08.06 to 08.02.07	128 to 289	25.04.06 to 20.05.06	04.09.06 to 12.02.07	107 to 268
5	MHD-2	25.04.06	31.08.06 to 08.02.07	122 to 236	25.04.06 to 20.05.06	16.09.06 to 12.02.07	119 to 268
6	BSW-2,3	25.04.06	01.09.06	129	25.04.06 to 20.05.06	17.11.06 to 21.12.06	181 to 215
7	MARD-2,3,4	25.04.06	17.09.06 to 29.03.07	145 to 338	25.04.06 to 20.05.06	20.10.06 to 30.03.07	153 to 314
8	MSDFSM-2	25.04.06	17.09.06 to 02.04.07	145 to 342	25.04.06 to 20.05.06	20.10.06 to 02.04.07	153 to 317
9	M.Com-1	16.08.06	26.09.06 to 22.12.06	41 to 128	16.08.06 to 30.09.06	20.10.06 to 16.01.07	20 to 108
10	MBA	26.05.06	13.10.06 to 14.01.07	140 to 233	01.06.06 to 20.06.06	06.11.06 to 01.02.07	139 to 226

Annex V

(Referred to in paragraph 3.6.5.3)

Under-utilisation of Gyan Vani FM stations

Sl.No.	Name of the Gyan Vani Station	Technical broadcast capacity in hours per day	No of hours programme broadcasted	Utilisation of programme hours in percentage terms
1	Bangalore	16.00	8.00	50.00
2	Chennai	16.00	4.00	25.00
3	Delhi	16.00	10.00	62.50
4	Mumbai	16.00	8.00	50.00
5	Bhopal	16.00	12.00	75.00
6	Raipur	16.00	8.00	50.00
7	Guwahati	16.00	8.00	50.00
8	Mysore	16.00	8.00	50.00
9	Shillong	16.00	7.00	43.75
10	Rajkot	16.00	8.00	50.00
11	Vishakhapatnam	16.00	8.30	53.12
12	Varanasi	16.00	8.00	50.00
13	Ahmedabad	16.00	8.00	50.00
14	Panaji	16.00	8.00	50.00
15	Patna	16.00	8.00	50.00
16	Jaipur	16.00	8.00	50.00
17	Kanpur	16.00	8.00	50.00
18	Indore	16.00	8.00	50.00
19	Hyderabad	16.00	4.00	25.00
20	Nagpur	16.00	8.00	50.00
21	Aurangabad	16.00	8.00	50.00

Annex VI

(Referred to in paragraph 3.7.4)

Non observance of prescribed procedures

Sl. No.	Non observance of procedure	Year of Grant	Name of State Open Universities/Correspondence Course Institutes which did not observe grant conditions
1	Audited statement of accounts not found submitted in the files	2003-04	Madhya Pradesh Bhoj (Open) University
		2004-05	Dr. B.R. Ambedkar Open University, Hyderabad, Yashwantrao Chavan Maharashtra Open University, Himachal Pradesh. University, Maulana Azad National Urdu University, Hyderabad, Punjab University
		2005-06	Nalanda Open University, Netaji Subhas Open University, North Orissa University, U.P. Rajrishi Tandon Open University.
2.	Detailed statement of exp. showing items covered under each head not found submitted in the files	2003-04	Vardhman Mahaveer Open University, Kota, Madhya Pradesh Bhoj (Open) University
		2004-05	Dr. B.R. Ambedkar Open University, Hyderabad, Netaji Subhas Open University, Yashwantrao Chavan Maharashtra Open University, H.P. University, Punjab University
		2005-06	North Orissa University, U.P. Rajrishi Tandon Open University
3.	Certified copy of record of assets never obtained	2003-04	Vardhman Mahaveer Open University, Kota, Madhya Pradesh Bhoj (Open) University, Karnataka State Open University, Aligarh Muslim University, Tripura University.
		2004-05	Dr. B.R. Ambedkar Open University, Hyedarabad, Nalanda Open University, Netaji Subhas Open University, Yashwantrao Chavan Maharashtra Open University, H.P. University, Maulana Azad National Urdu University, Hyderabad,, North Orissa University, Punjab University.
		2005-06	Nalanda Open University, Netaji Subhas Open University, North Orissa University, U.P. Rajrishi Tandon Open University, Madhya Pradesh Bhoj (Open) University, Tamil Nadu Open University, Acharya Nagarjuna University, Punjabi University, Patna University
4.	5 sets of self instructional material not submitted	2003-04	Vardhman Mahaveer Open University, Kota, Kota, Madhya Pradesh Bhoj (Open) University, Karnataka State Open University, Aligarh Muslim University, Tripura University.
		2004-05	Dr. B.R. Ambedkar Open University, Hyderabad, Nalanda Open University, Netaji Subhas Open University, Yashwantrao Chavan Maharashtra Open University, H.P. University, Maulana Azad National Urdu University, North Orissa University, Punjab University.
		2005-06	Nalanda Open University, Netaji Subhas Open University, North Orissa University, U.P. Rajrishi Tandon Open University, Madhya Pradesh Bhoj (Open) University, Tamil Nadu Open University, Acharya Nagarjuna University, Punjabi University, Patna University.

MINISTRY OF SHIPPING, ROAD TRANSPORT AND HIGHWAYS

COCHIN PORT TRUST

INTEGRATED VESSEL & CARGO INFORMATION AND BILLING SYSTEM (IVCIBS) AND FINANCIAL MANAGEMENT SYSTEM (FMS) IN THE COCHIN PORT TRUST

CHAPTER IV : MINISTRY OF SHIPPING, ROAD TRANSPORT AND HIGHWAYS

Cochin Port Trust

4 Integrated Vessel & Cargo Information and Billing System (IVCIBS) and Financial Management System (FMS) in the Cochin Port Trust

Highlights

- **Logical access controls were weak due to indiscriminate grant of access rights and delete privileges to groups of users through common password, compromising IT security.**
- **Vessel arrival data was incorrect.**
- **Entry Certificates and Clearance Certificates were not generated through the system. Advance collection of Port dues was not ensured before issuing the Certificates.**
- **In the absence of details of containerized cargo landed, de-stuffed and delivered, the Classified Import Manifest generated by the system was incomplete and incorrect.**
- **There was a difference of Rs. 404.47 crore between the figures in the tables relating to computation of wharfage for export cargo due to inadequate process control leading to incorrect computation of wharfage.**
- **Maintenance of database of Steamer Agents was defective and the System lacked control over the minimum balance prescribed leading to negative balance of Rs. 29.51 lakh in 12 accounts as on 28.07.2006.**
- **There were delays in entering the data relating to receipt and payment in FMS and authorization by Cashier.**
- **The System lacked control over debiting of expenditure against heads of account without provision or in excess of provision.**
- **There were several gaps in the System generated numbers, due to back end deletion of records. This affected the integrity of the database.**

Summary of recommendations

- **CoPT needs to strengthen the security of IT systems, particularly the access to systems comprising both physical access as well as logical access.**

- **CoPT should formulate a well defined and documented password policy to prevent unauthorized access to system and to ensure accountability of transactions.**

- **CoPT should strengthen its existing validation checks in the computerized systems and build additional validation checks so that the deficiencies noticed in the systems are eliminated and data integrity is enhanced.**

- **CoPT needs to rectify deficiencies in master data and other allied data and to strengthen input controls so that reliability of data may be enhanced and the requisite reports may be generated.**

- **CoPT should devise a system of periodical review of implementation of IT systems and implementation of major IT Projects should be a part of a wider agenda for change and should not be simply superimposed on the manual system with inefficient services.**

- **CoPT should ensure optimal utilization of the applications by exploiting all their features so that the intended objectives may be achieved.**

4.1 Introduction

Cochin Port Trust (CoPT), a Body set up under Indian Ports Act 1908, renders services to more than 1000 Inland and Foreign vessels and handles about 13 million metric tons of cargo. Annual turnover of CoPT is more than Rs. 200 crore and the main source of income are operational income (vessel billing, cargo billing, container billing and estate rentals) and miscellaneous income (return on investments, sale of unserviceable). Containerised cargo handling facility is operated by IGTPL[1] from April 2005 onwards.

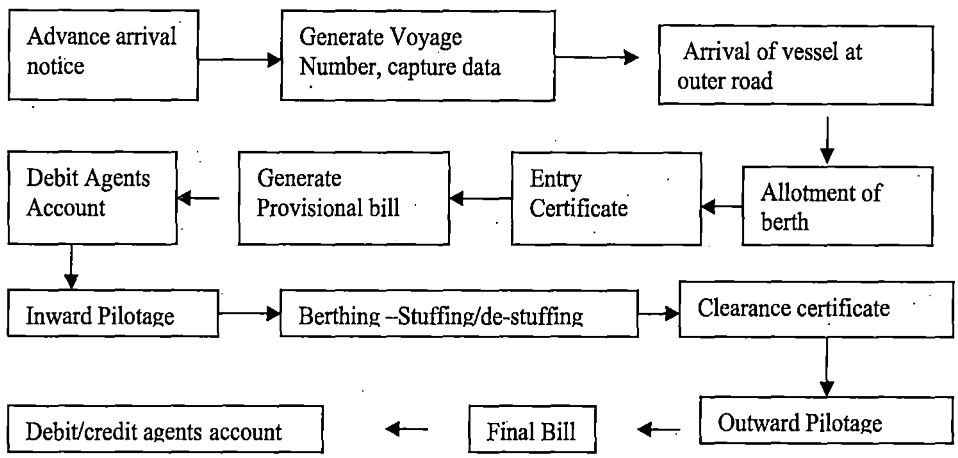
CoPT initiated implementation of Management Information System project during 1998-99 covering areas like Finance, Accounts, Pay roll, Pension, Revenue, and Traffic to facilitate introduction of Electronic Data Interchange (EDI) so as to equip CoPT to compete with other Ports.

The project included development and implementation of two major applications:

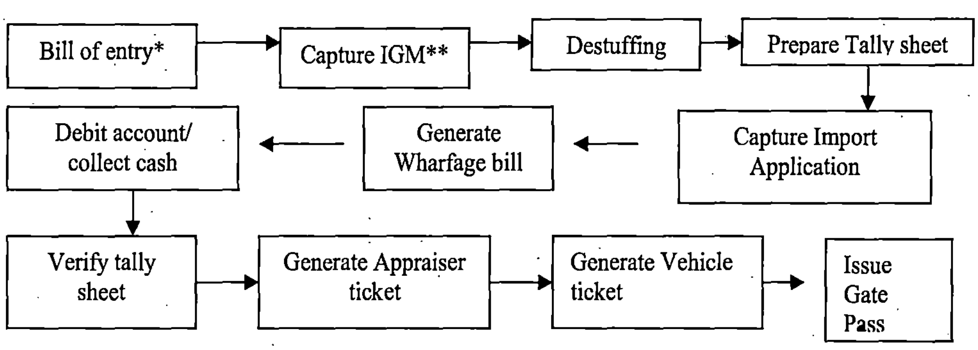
[1] Integrated Gateway Terminal Private Limited

- Integrated Vessel and Cargo Information and Billing System **(IVCIBS)**
- Financial Management System (**FMS**)

IVCIBS was developed by Tata Consultancy Services Limited (TCS) at a cost of Rs. 15 lakh with Oracle as backend and Developer 2000 as front end. IVCIBS is a combination of Vessel Information & Billing System (VIBS) and Cargo Information & Billing System (CIBS) with common master tables. A flow chart on the vessel billing process is given below:



Cargo Information & Billing System covers the billing of cargo related charges such as wharfage, demurrage and equipment hire charges. A flow chart on the cargo billing process is given below:



* *A statement delivered by an importer at the Custom House describing the nature and value of goods imported declaring the place from which imported.*
** *Import General Manifest*

FMS was developed by M/s Pentafour Systems Limited at a cost of Rs. 6.5 lakh with Oracle as backend and Developer 2000 as front end to provide financial management information at various levels reflecting the state of financial and operational performance of CoPT and its departments. The System covers Cash office operations, Budgeting, Journal & Ledger maintenance, Annual Accounts preparation, Asset & liability management and Bank reconciliation.

CoPT incurred an amount of Rs. 5.25 crore towards the computerization up to August 2007.

4.1.1 Organisational set-up

Administration of the Port is vested in a Board of Trustees comprising a Chairman, a Deputy Chairman and 12 members constituted under Major Port Trusts Act, 1963. The Chairman is the Chief Executive of the CoPT. He is assisted by Deputy Chairman and 8 Heads of Department. Computer Centre is headed by a Deputy Director (EDP) under the supervision of Deputy Chairman.

4.2 Audit Objectives

A performance review of the IT applications such as IVCIBS and FMS was conducted to assess whether:

- General controls to administer and implement IT applications were adequate.
- Application controls were adequate and effective.
- Applications developed were optimally utilized and the intended purposes were being served.

4.3 Audit scope/methodology

The scope included test check of records and evaluation of effectiveness of general and application controls operating in IVCIBS and FMS. Besides, the data stored in IVCIBS and FMS was analysed using CAAT to ascertain whether the information generated out of the system satisfied the characteristics of Information such as reliability, completeness, accuracy, verifiability, relevance, timeliness and confidentiality.

Audit findings have been discussed in succeeding paragraphs:

4.4 General IT controls

General computer controls are critical to the organisation's ability to safeguard its assets and ensure reliability of financial management information. Weakness in Information System's general controls affects the over all efficiency and security of computer operations.

4.4.1 Absence of segregation of duties among EDP Staff

For ensuring IT Security, the duties and responsibilities of EDP staff should be adequately segregated and there should be separate staff for application and system programming, computer operations and data security. Audit observed that although there were 15 EDP posts in the Computer Centre in CoPT including 5 Programmers, there was no segregation of duties among EDP programmers. It was also seen that Computer security administration staff was responsible for application programming in addition to supporting security administration making the system prone to the risk of error and fraud.

Management stated (September 2007) that orders were issued on 31.08.2007, segregating the duties of EDP Programmers.

4.4.2 Inadequate logical access control

Logical access controls are introduced in the IT System to protect computer resources against unauthorised access attempts. In this regard, the following deficiencies were noticed:

- Although access to System and file resources was restricted through User ID and password, there was no provision to limit multiple log on by the same user and multiple sign on attempts etc to maximise System security.
- Apart from 2 users identified by Name, all other users represented various Sections where connectivity had been provided. The granting of a particular user_id and password to a Section was irregular, as several persons in that Section would be accessing the system using the common password thereby blurring the accountability of individual users.
- The users were not identifiable by Employee code or Employee Name. As such, in the event of misuse of the system or fraud, it would be difficult to identify the person responsible for the same.
- Four privileges- insert, query, update and delete in respect of 314 functions were granted to 13 users. This included the user "AP" with all the four privileges in respect of 189 functions. This indicated that the Analyst Programmer who had access to source code was also having full access to 189 functions and could change the data any time in any of the tables.
- The organization did not have a well defined and documented Password Policy.

Management stated (September 2007) that a revised procedure to restrict access rights to individual users based on employee ID had been introduced from 14.08.2007 and the role of Analyst Programmer had been redefined.

Recommendation

- *Access controls should be strengthened and user id/password management should be improved to prevent unauthorized access to system and to ensure accountability of transactions.*

4.4.3 Application controls

Application controls are used in IT Systems to provide assurance to the management that all transactions are valid, authorized, complete and accurate. These controls include Input controls, Output controls and Process controls.

The objective of **Input controls** is to ensure that the procedures and controls reasonably guarantee that (i) the data received for processing are genuine, complete, not previously processed, accurate and properly authorised and (ii) data are entered accurately and without duplication. **Data validation** is a process for checking transaction data for any errors or omissions and to ensure the completeness and correctness of input.

INTEGRATED VESSEL AND CARGO INFORMATION AND BILLING SYSTEM

System deficiencies and weak input control

4.5 Audit findings on Vessel Billing –Inaccurate and incomplete data

4.5.1 Deficiencies in Scale of rates data

Scale of rates specifying the vessel and cargo related charges leviable for Port operations are notified by the TAMP[2]. The master tables relating to vessel rates, cargo rates and equipment rates in ICVIBS store the details of rates prescribed for various port services. Traffic Revenue Section is responsible for updating master tables relating to Scale of rates. Data analysis revealed inaccurate data due to defective system design and weak input control as detailed below:

(i) In 322 out of 433 cases the 'created date' for the rates effective from 12.02.2004/01.02.2005 was shown as 07.04.1999 or 08.04.1999 or 09.04.1999. This was due to editing of the earlier rate, instead of appending new records with appropriate effective date. As the current table did not contain the past rates, the system could not generate the bills in respect of vessels which arrived prior to the effective date.

(ii) The effective date in 54 records was prior to created date indicating delay in entering data. This would affect the timely generation of Bills as per the new rates.

Management stated (September 2007) that as per system design it was possible to maintain only one set of tables; effective date field was kept only for information purpose and updating was done only after all past cases were settled. The fact remains that such inaccurate data could affect the preparation of bills.

[2] Tariff Authority for Major Ports

4.5.2 Deficiencies in data relating to vessel arrival

Under the computerized system, a master data of all vessels which visited the Port earlier are maintained and a unique vessel code is assigned to identify such vessels. Also a unique Voyage number (VIA) is allotted for each visit of the vessel to the Port, based on advance arrival notice to identify all transactions of the vessel pertaining to that voyage. The details of the vessel, type of cargo carried, expected duration of stay, actual date of arrival at Outer road etc. are important parameters to be entered into the system. It was the responsibility of Harbour Master's office to capture data and ensure the completeness of data entry. However a scrutiny of the *Voyage* table containing records of 9313 vessels scheduled to arrive at the port between 10th May 1999 and 27th July 2006 revealed the following:

(i) *Outer road arrival date* which is crucial for fixing exchange rate and allotting berth was blank in respect of 1,642 voyages, excluding 226 voyages cancelled. A cross-check of voyage data and vessel billing data revealed that vessel related charges had been realized in respect of 1,576 voyages out 1,642 mentioned above. Evidently, the completeness of data entry was not ensured by the Harbour Masters office. Out of the remaining 66 cases, the status as on 28.07.2006 was shown as **'A'** indicating that the arrival was awaited. These included 47 vessels which were scheduled to arrive between May 2000 and October 2005 and there were no documents to verify whether these vessels had actually arrived or the voyages were cancelled.

(ii) Though the advance arrival notice received from Shipping agents would invariably contain the *expected date of arrival,* the field was blank in 10 records as the field was not designed as a mandatory field.

(iii) The fields *expected date of arrival* included dates such as 13.01.1006, 26.04.2300 and 24.07.2300, obviously errors due to absence of data validation control.

(iv) Previous port of visit is an important piece of information to decide whether a vessel is Foreign or Coastal. But the field was blank in 2,577 records. Besides, the field contained irrelevant characters such as "+" and numbers in 16 other records due to absence of input control.

In view of the deficiencies, IVCIBS was unable to generate accurate reports on vessels occupying various berths and waiting at the outer roads for appropriate decision of the Berthing Committee. This not only defeats the objectives of computerization, it also enhances the vulnerability of decision making process due to generation of such inaccurate data.

Management stated (September 2007) that outer road arrival date had now been made mandatory. As regards absence of vessel arrival data in respect of certain voyages, it was stated that the voyages which were cancelled in the manual records were not cancelled in the system as the data entry was not online.

4.5.3 Deficiencies in the Pilotage data

Pilotage order is an instruction to a pilot to assist the Master of a vessel in shifting the vessel to and from a particular berth at a specified time on a specified date. Harbour Masters Office is responsible for capturing the Pilotage data in two stages- at the time of issue of Pilotage order and at the time of generating Pilotage certificate. A test check of pilotage data relating to June 2006 with original Pilotage Orders available in Traffic Revenue Section revealed the following deficiencies:

- Pilotage orders were not generated through the System on Holidays and after Office hours on working days. In the absence of server connectivity, the details of orders issued manually were entered only on the next working day or even much later. 112 out of 295 Pilotage orders were prepared manually and entered into the system subsequently.
- The date of issue of Pilotage order was different from the date recorded in the system in some cases. Pilot Board date/time and Pilot Disembark date/time were incorrectly entered in many cases.
- Though there is a provision in the IVCIBS to record the decision of the Berthing Committee, the relevant table contains only 50 entries relating to the decisions on 4 days during January 2001. In the absence of such data the authority for generating Pilotage order could not be verified.

Besides, analysis of the Pilotage table, where the details of all Pilotage orders identified by Voyage Number are stored revealed the following:

- As per the data in updated date and pilot disembark date fields revealed that there was a delay of 3 to 191 days in entering the details of Pilotage in 14,722 cases, excluding 649 cases of abnormal variations due to input error.
- The reason for shifting the vessels from one Berth to another was not recorded in the Pilotage order. As such the activation of Port account flag as **Y,** to identify shifting for Port convenience, lacked authority.
- The Pilotage order date was blank in 45 records out of 37976 and d*ate of* Pilotage order was after Pilotage *date* in three records and Pilotage *date* was after Pilot board date in 29 records due to absence of input control.
- Pilotage order dates included dates such as 1.07.1034, 29.01.1012 and 03.08.3005, obviously errors due to absence of data validation control.
- Pilotage *date* field was blank in 6 records, as the date and time of scheduled Pilotage was not indicated in the order or the data was not captured.
- Pilot board time was blank in 61 cases and Pilot disembark time was blank in 58 cases where Pilotage order was not cancelled.

Due to incorrect data entry and delay in data entry, the reports relating to berth status at a specified time generated by the system could not be relied upon.

Management stated (September 2007) that input validations had now been applied to fields and 24 hours server connectivity had been provided to Marine Department from 6 August 2007 and the reason for shifting vessels were now being recorded in the Berthing committee meetings.

4.5.4 Deficiencies in Port Clearance data

Deputy Conservator's Office is responsible for the issue of Entry certificates for vessels after verifying the essential documents produced, generating Provisional Invoice for realizing vessel related charges in advance and issue of clearance Certificate for vessels desiring to leave Port.

Test check of the records in DC Office and analysis of data pertaining to issue of Entry certificates and clearance certificates for the period May 1999 to July 2006 revealed the following deficiencies:

- Entry certificates and clearance certificates were not generated through the system. It was also observed that the clearance certificates were issued much in advance of departure of the vessel and in many cases along with the entry certificate, and Data relating to actual date of departure and the details of extension of clearance certificate were not captured in the system defeating the purpose of computerization.
- There were 306 gaps in Voyage number field as against 226 records of cancellation of voyage. This could imply that clearance certificate had not been issued for 80 voyages.
- Debit advance flag was = "N" in 2,228 out of 8,980 records indicating that collection of Port dues was not watched for issue of clearance certificate.
- There were 323 gaps in the Voyage number field in EC_CERT table as against 226 records of cancellation of voyage, which indicates that entry certificates were not possibly issued to 97 voyages.

As completeness of data entry was not ensured by the DC office, the resultant information could not be relied upon.

Management stated (September 2007) that entry certificates and clearance certificates were now generated through the system and no clearance was given where sufficient funds were not available in Agents Account.

Recommendation

- *CoPT needs to rectify deficiencies in master data and other allied data, and to strengthen input controls so that reliability of data may be enhanced and the requisite reports may be generated.*

4.6 Cargo Billing

4.6.1 Defective maintenance of tally sheet data

Scrutiny of the data relating to tally sheet kept in the system and tally sheet maintained manually in Ernakulam Wharf revealed the following deficiencies:

- The details in the tally sheet were not entered into the System after each shift on a daily basis. Instead, the details were entered only at the time of actual delivery of the cargo to the importer. Hence, the details of cargo which were landed but not taken delivery by the importer could not be correctly generated from the System.
- The number of packages landed as per the tally sheet was generally lower than the number of packages shown in the Import General Manifest. However, the number of packages delivered was equal to the number shown in the Import Application submitted by the consignee. For example, in Tally Sheet No.6379 dated 28.06.2006, 193 packages were de-stuffed from Container No. CRXU – 980153-9-40'. However, as per the delivery ticket, 199 packages were delivered to the consignee. Thus, 6 packages were seen to have been delivered in excess of what was recorded in the tally sheet.
- Shift wise discharge of cargo, details of gang engaged and duration of work entered into the System were totally incorrect with reference to data as per the tally sheet. For example, though the de-stuffing of cargo in respect of IGM no.53942006 was done on 22.06.06 between 9 AM and 11.30 AM, the System indicated that the work was done between 8:01 and 14:03 hours on 19.06.06, 21.06.06 and 22.06.06.
- Though the details of the cargo landed are available in the Tally Sheet, the details of cargo confiscated by the Customs were not captured by the System.

Hence, the data in the system did not represent a true picture of de-stuffing or delivery.

Management stated (September 2007) that the tally clerk had taken tally of packages as had been de-stuffed. As all packages were tallied after identification of packages and delivered, the number actually delivered was shown as de-stuffed in the system. The management admitted that gang number and shift time were not entered correctly. This reply is not acceptable as the data entered in the system cannot be correlated with the corresponding input sheet. Moreover the management cannot justify incorrect data capture based on delivery ticket after designing a system to capture data from tally sheet according to business rules. Such data inaccuracies pose a serious threat to the system.

4.6.2 Incomplete generation of Classified Import Manifest (CIM)

Import General Manifest received from the arriving vessel contains the details of Cargo to be de-stuffed at the Port. Wharf office is required to prepare a Classified Import Manifest after entering the details of cargo landed, quantity delivered against, specific Import Applications and short landed cargo.

It was, however, seen that the CIM had not been prepared for the past three years for want of details of cargo landed at CFS and IGTPL, and although IGTPL Terminal was separated from 1.4.2005, no procedure had been prescribed so far for obtaining the details of cargo de-stuffed at the IGTPL to prepare correct CIM. Besides, there was also no arrangement for regular receipt of tally sheet/delivery ticket from CFS.

Management stated that (September 2007) CIM was closed against IGM by issuance of out turn report to customs. In terms of the present agreement with IGTPL, it was not possible to capture particulars of delivery of containers at IGTPL, and hence CIM generated could not match full particulars against IGM. The reply is not convincing as it was the responsibility of the Port Administration to ensure that all packages as per IGM are delivered, and the agreement with the outsourced agency during April 2005 should have been drawn up keeping in view the Port's obligation.

4.6.3 Deficiencies in wharfage related data

As per scale of rates, wharfage at the prescribed rate should be charged for different category of cargo imported/exported. The rate is based on quantity or volume or value of cargo. In the case of Containerised cargo fixed wharfage is realizable depending on the size of the container (Rs. 1300 for 40' and Rs. 800 for 20'). Scrutiny of data relating to wharfage revealed that out of 2,97,256 records relating to 1,70,005 Export Applications, the identification number of the container by which the particular cargo was exported had been entered only in 9,892 records, and the number was shown as 1, 2, 3 etc in the case of exports through multiple containers and in the remaining cases as 1. Hence, the data was not reliable for identifying/tracking of export of cargo or generating Export Manifest.

Management stated that the container numbers might not be available while filing Export Application. The reply is not acceptable as the system was designed to facilitate generation of Export Manifest for which container number is a must.

4.6.4 Inconsistencies in wharfage bill data

Audit observed that the total wharfage due on different items included in each Export Application maintained in the system in a table (EA_DTL) did not tally with the wharfage amount shown elsewhere in the system in another table (EA_HDR). Against the total wharfage amount of Rs. 1117. 67 crore due on 1,77,158 applications during the period from 2.07.1999 to 28.07.2006 as per

EA_HDR table, the amount due as per EA_DTL table for the same period was only Rs. 713.20 crore. Thus, there was a difference of Rs. 404.47 crore between the data in the two tables. The difference could be attributed to wrong computation of wharfage by multiplying *cargo value* by *rate* instead of *wharfage quantity* by *rate*.

It was also noticed that as per the data, the wharfage amount was zero in respect of 23,993 Export Applications as either the rate was shown as zero or quantity was shown as zero. Scale of rates did not include any cargo category liable for zero rates, and if wharfage quantity was zero there was no question of Export Application.

Management stated (September 2007) that only approved records were considered for calculation and wharfage amount in EA_HDR table included service tax component. This reply is not acceptable as the wharfage amount due in respect of 174053 approved applications as per EA_DTL table was Rs. 678.79 crore which was more than the amount of Rs. 450.20 crore as per EA_HDR table. As regards records having wharfage amount as zero, it was stated that there were no such cases. The fact remains that wharfage amount was zero in EA_DTL table in respect of 22987 approved applications while it was not zero in EA_HDR table.

4.6.5 Not ensuring minimum balances in the Agent's Account

Port instructions stipulate that the minimum balance in the deposit account of the steamer agents should be either Rs. 15,000 or 45,000 or 1,00,000 based on the annual volume of business and Rs. 50,000 for the public sector oil companies. A comparison of the prescribed minimum balance in Agent_dtl table and actual balance in Process_TR table revealed the following:

- Minimum balance field was blank in 95 out of the 273 accounts of Shipping Agents, maintained in TR. This indicated that the System did not prevent transactions by the Agents who do not maintain the minimum balance in their accounts.
- The current balance as on 28.07.2006 was negative in 12 accounts involving an excess debit of Rs. 29.51 lakh. This suggested that the system did not have controls to alert the user against debits which would reduce the current balance below the minimum balance.
- Out of the 193 accounts for which minimum balance had been specified, in 59 accounts the current balance was less than the minimum balance prescribed, and the shortfall was to the tune of Rs. 36.77 lakh.

Management stated (September 2007) that a facility to view Agents balance had been provided to users from January 2007 to avoid such instances and the cases of excess debit occurred in certain accounts where the agents had filed suits and in cases where penal interest had been recovered. Such instances could arise as the input controls are either non-existent or are not being followed.

4.6.6 Inconsistencies in the accounting of Agents transaction

Even though Agents transaction process was computerized (January 2004), TR Section continued to maintain manual Ledgers. Analysis of the data relating to Agents daily transactions revealed the following:

- There was a delay in processing of Agents passbook on a daily basis, and the related table as on 18.07.2006 contained data only up to 30.06.2006. Moreover, the total amount debitable in 194 accounts from 01.01.2004 and 28.07.2006 as per *Agent Transaction* table did not tally with the amount debited to passbook during the same period. Out of the short- debit of Rs. 5.61 crore in the Agents passbook, Rs. 5.17 crore related to the period from 01.07.2006 to 28.08.2006, not included in the passbook and the specific reason for short debit of Rs. 43.72 lakh was not furnished.
- Similarly, there was a short- crediting of Rs. 4.64 crore in the Agents passbook due to the delay in crediting transactions relating to the period 01.07.2006 to 28.07.2006.
- Though all vessel related charges were to be debited to the Deposit Account of Agents, 6318 cash transactions amounting to Rs. 29.71 crore were carried out by 124 Agents. This included 225 transactions of 15 Agents who were maintaining Deposit Accounts with Port. Thus, the System did not have provision to prevent vessel related transactions in cash.

The System did not ensure that all transactions were debited to the Agents passbook correctly.

Management stated that the provisional bills in respect of Oil companies were raised manually and entered in the manual registers and only final bills were raised through IVCIBS. The difference has been rectified at the time of merger of all accounts during January 2007.

4.6.7 Back end deletion of data

Transaction codes are system generated numbers to identify a particular transaction. Scrutiny of data revealed that there were gaps in the unique ID generated by IVCIBS.

- There were three gaps voyage number generated by the system to identify each voyage of vessels visiting the Port
- Entry certificate number and clearance certificate numbers are unique numbers generated by the system to identify entry certificates and clearance certificate relating to a voyage. It was. however, noticed that there were 17 gaps in entry certificate number and 9 gaps in clearance certificate number.

These gaps indicated deletion of records through back end. The procedure is incorrect as deletion of data or modifying data at the back-end causes serious repercussions as it renders all controls ineffective and makes the system totally un-reliable.

Recommendation

- *CoPT should devise a suitable mechanism to ensure that tally sheet data contain all the necessary details, CIM is generated in a timely fashion, and deficiencies/consistencies in wharfage data are eliminated. Suitable input controls should be incorporated in the system so that it was able to ensure minimum balance in Agent's Account. Besides, the system should be geared to ensure that all transactions are debited to Agents passbook correctly, and no backend deletion of data is allowed.*

FINANCIAL MANAGEMENT SYSTEM

4.7 Audit findings relating to Financial Management System

Deficiencies in the System and Input control weakness

4.7.1 Delay in generating Cash book

CoPT is maintaining 5 separate Cash Books for recording transactions relating to General Reserve Fund, General Provident Fund, Contributory Provident Fund, Employees Welfare Fund and Fisheries Harbour Project. Accounts Manual stipulates that the daily cash transactions should be recorded in the Cash Book and balance physically verified by DyCA and certificate to that effect recorded daily.

Audit observed that even though Cash & Bank transactions had been computerized from 1999, the particulars of collection as well as payment were not entered into the system simultaneously. Due to delay in entering transaction details into computer, Cash Book and Chitta Books were not generated on the same day. Instead, the manual system of Scroll book and agreement of physical cash balance was followed.

Besides, analysis of the data as on 28.07.2006 made available to audit revealed the following:

- Though the receipt in respect of cargo related charges were entered up to 27.07.2006, the details of payment by cash were entered only up to 24.07.2006.
- Though all transactions entered by Deputy Cashiers should be authorized by the Cashier on the same day, *date of authorization* was after the *date of preparation* in 3, 84,900 out of 4,15,639 records.

- The delay in authorization of transactions by Cashier exceeded 30 days in 43,902 transactions including 10 cases where the delay was more than 100 days.

Thus the delay in data entry and authorization resulted in a delay of minimum one week in generating Daily Cash Book in the prescribed format, defeating the objective of computerisation.

Management stated (September 2007) that all cash transactions were entered and authorized on the same day and closing of cash book was done every day from 14.08.2007.

Recommendation

- *Suitable mechanisms should be devised to ensure timely data entry and authorization so that the requisite report may be generated in a timely manner.*

4.7.2 Ineffective Budget monitoring

The Budget Module in FMS has provision to prepare Budget Estimate (BE), Revised Estimate (RE) and generate Monthly Accounts, Trial balance and Reports on Analysis of variances. Scrutiny of the data relating to Budget 2005-06 revealed that:

- Expenditure amounting to Rs. 2.45 crore was incurred in 150 Account heads which did not have any provision in BE or RE because the System did not have control against debiting of expenditure against Account heads without provision.
- Expenditure exceeded provision by Rs. 10.25 crore in 353 Heads of Account as the System did not have control over expenditure in excess of provision. This included 113 Account heads, where the expenditure was more than 200 *per cent* of provision.
- 17 Asset heads recorded negative debit balances and 28 account heads negative credit balances.
- The expenditure was less than 50 *per cent* of RE in 292 account heads, leading to a savings of Rs. 5.79 crore evidently due to failure to monitor timely utilization of funds.

Thus, it is evident that FMS which was developed as an MIS could not be utilized as a management tool for Budget monitoring.

Management stated that all Heads of Departments (HoD) were provided with nodes to access FMS for verification of budget provision.

Recommendation

- *CoPT needs to rectify the defects in FMS and to utilize it as an MIS tool for effective monitoring of budgeting process.*

4.7.3 Lack of integrity of database

Daily cash and bank transactions are identified by system generated numbers, Header ID and Batch ID. The Ledger entries are stored in different tables which are also identified by Batch ID and Header ID. Scrutiny of the tables revealed that there were several gaps in the unique ID fields generated by the system due to deletion of records as detailed below:

- Batch table relating to Cash transactions had 3,019 gaps in the Batch ID field involving 11,487 missing IDs out of 4, 15,639.
- Header table relating to Cash transactions containing 4,18,381 records had 2,993 gaps in Header ID field involving 9,528 missing IDs and 3,019 gaps in the Batch ID field involving 11,487 missing IDs.
- Lines table relating to Cash transactions containing 8,80,043 records had 2,993 gaps in Header ID field involving 9,528 missing IDs
- Batch table relating to Journal transactions containing 31,266 records had 86 gaps in the Batch ID field involving 234 missing IDs.
- Header table relating to Journal transactions containing 33,478 records had 86 gaps in Header ID field involving 243 missing IDs and 86 gaps in the Batch ID field involving 234 missing IDs. In JV Number field there are 1,036 gaps involving 9,533 Missing ID.
- Lines table relating to journal transactions containing 13, 04,862 records had 88 gaps in Header ID field involving 245 missing IDs.

Deletion of records is not an approved method for cancellation of transactions to facilitate correction in a computerized system. Deletion of records in a financial system without an audit trail poses a serious threat to data security as the persons who deleted the records and the previous value stored are not identifiable in the absence of audit trail. As the integrity of the database was compromised the Accounts generated by the System was not reliable.

Management stated (September 2007) that the facility for deletion of records given to users in cash section/budget section had been disabled to avoid the possibility of occurrence of gaps in data in future. But the deficiencies in the present data would continue.

Recommendation

- *CoPT should institute a mechanism to prevent back end deletion of data so that gaps in system generated numbers may be avoided, and integrity of database may be ensured.*

Process control

4.7.4 Mismatch of data relating to Advance to HoD

Temporary Advances are given to Disbursing Officers to meet any particular item of expenditure. Twenty three Separate Advance Account heads are provided for accounting and adjustment of advance. Under the Computerised System, the advances are drawn by debit to the Advance Head of the Department account concerned. Refund, if any, by Chalan is accounted in the Cash Book. The particulars of vouchers are entered into the System by Budget Section through Transfer Entry by debiting appropriate head of account and crediting the Advance account.

It was, however, observed that as per the database, an amount of Rs. 6.32 crore was outstanding under the head A879 to A903 as on 31.03.2006, which included 6 accounts with negative balance indicating that the adjustment was more than amount drawn as advance. But as per Annual Accounts 2005-06, only Rs. 2.5 crore was outstanding on 31.03.2006, of which Rs. 1.7 crore represented advances pertaining to items more than 15 year old, the details of which could not be traced. In the absence of facility to watch the adjustment of a particular advance, the details of adjustment of advances after introduction of computerization could not be monitored through the system.

Management stated that most of advances outstanding related to the periods prior to implementation due to non availability of old records.

Recommendation

- *There needs to be an inbuilt system to watch the progress of adjustment of advances.*

4.8 Failure to Monitor the Implementation of IVCIBS & FMS

Audit scrutiny revealed the following irregularities due to the absence of periodical review of the implementation of the IT Systems:

4.8.1 Absence of prescribed procedure

Scrutiny of records relating to implementation of IT Systems revealed that the procedure followed under the Manual system was continued even under the computerized environment leading to continuance of manual records. Relevant provisions in the Port Manual, Traffic Manual and Accounts Manual were not amended to prescribe duties and responsibilities of the users in the computerized environment. The role of supervisors is at present limited to scrutiny of manual records or computer printout.

Thus, absence of procedure exposed the weakness in Internal Control mechanism which ensured that the users of computer system discharged their responsibilities promptly and correctly. This led to input control deficiencies pointed out in preceding paragraphs.

Recommendation

- *CoPT should devise a system of periodical review of implementation of IT systems and implementation of major IT Projects should be a part of a wider agenda for change and should not be simply superimposed on the manual system with inefficient services.*

4.8.2 Absence of facility for automatic conversion of transactions

At the development stage, IVCIBS and FMS were to be integrated and all Bills which were authorized by the IVCIBS were to be transferred to FMS every 5 minutes to create general Ledger entries for creating the facility of viewing real balance in Agents Account. But necessary modifications were not carried out in FMS leading to the following irregularities:

- Out of 3,38,796 transactions in Agent Transaction table, the field *Authorisation status* was **'U'** indicating unauthorized, in all records except 342 where the field was blank.
- Cheque status was '0' indicating not realized in 40,888 records of cheque transactions, 2 indicating bounced in 10 records. There was no record with status 1 indicating realization.
- FMS status field would display Y if a transaction is transferred to FMS, otherwise it would display 'N'. But the FMS status as per the table was E, I or D which are not proper indicators of updating the General Ledgers.

4.8.3 Mismatch of figures as per IVCIBS & FMS

Consolidated figures in respect of debit and credit to Agents account are brought to FMS through monthly Journal entries. In the absence of link between applications and periodical reconciliation of figures the following discrepancies were noticed:

(i) Against the Balance as on 31.12.2003 amounting to Rs. 14.96 crore brought into IVCIBS, the balance under the head "L681" as on 31.12.2003 as per FMS was Rs. 15.14 crore involving a difference of Rs. 18 lakh.

(ii) Against the balance of Rs. 5.69 crore shown in the accounts as on 31.03.2006 under L 681, the balance as on 31.03.2006 as per IVCIBS was only Rs. 5.29 crore . This involves a difference of Rs. 40 lakh between the data in the two Systems.

Management stated (September 2007) that the difference between the balance as per control accounts in FMS and details of deposit accounts in IVCIBS was due to various factors like wrong classification in earlier years and Port was in the process of reconciling the figures.

Recommendation

- ➢ *CoPT needs to establish link between applications and timely reconciliation of figures so that discrepancies in figures may be avoided.*

4.8.4 Delay in realizing vessel related charges

Though all vessel related charges are to be realized from agents before rendering port services, it was seen that 2755 out of 10598 provisional bills were generated after the departure of the vessel. It is evident that there was delay in preparation of bills despite computerization.

The Management attributed this to the delay in input of inward pilotage order and stated that the availability of balance was monitored manually. The reply is not acceptable as the manual register did not reflect the up to date position of balance due to delay in generation of bills. Besides, SRS stipulated that clearance certificate should be generated through the system only after generating provisional bills. By passing of computer system for issue of clearance certificate led to the delay.

4.9 Conclusion

Computerisation of CoPT was undertaken during 1999 to facilitate switch over to Electronic Data Interchange (EDI) and to make its services competitive in the global markets. But apart from facility to download Import General Manifest from Customs server, CoPT could not provide any automated service to the customers. As CoPT was continuing manual system it is evident that the management itself was not relying on the system. Though FMS was designed as an on-line accounting package for effective budgetary control, it was not conducive to achieve the objective due to ineffective implementation. The Port Administration did not monitor the implementation of IVCIBS and FMS to ensure that efficiency of Port operation is increased by computerisation.

Management stated that all the deficiencies in the present package would be addressed while developing Integrated Port Information System under ERP environment.

Acknowledgement

We place on record our sincere appreciation of the cooperation extended by the Management and other officials of CoPT in making available records/data for our audit as well as in furnishing replies to our audit queries.

The matter was referred to the Ministry in October 2007; their reply was awaited as of December 2007.

MINISTRY OF URBAN DEVELOPMENT

DELHI DEVELOPMENT AUTHORITY

CONSTRUCTION AND ALLOTMENT OF HOUSES

CHAPTER V : MINISTRY OF URBAN DEVELOPMENT

5. Delhi Development Authority

Construction and Allotment of Houses by Delhi Development Authority

Highlights

- The DDA did not prepare budget estimates on realistic basis. The DDA also incurred expenditure in excess of administrative approval and expenditure sanction.
- Works were awarded without ensuring appropriate land use and also without obtaining prior approval of design from local bodies.
- Award of works without ensuring availability of structural designs and materials in time resulted in escalation charges of Rs. 6.83 crore.
- The DDA routinely included normally inadmissible clause 10CC in the lump sum contracts resulting in undue benefit of Rs. 10.71 crore to the contractors.
- Due to improper costing and non-finalization of costing, funds to the tune of Rs. 11.98 crore were blocked.
- There were inordinate delays in disposal of constructed houses to public. Besides, houses were allotted without ensuring basic amenities to people.
- There was no practice in DDA to obtain required certificate from the architect to ensure that the work was executed as per approved drawings and designs.

Summary of recommendations

- The revised AA&ES should be obtained from competent authority before incurring expenditure beyond original sanction in excess of 10 *per cent* of original sanction.
- Works should be awarded after ensuring appropriate land use and unencumbered site.
- Structural drawings and designs and materials should be timely made available to the contractors.

- **Works should be awarded in accordance with relevant codal provisions ensuring that undue benefit is not extended to the contractors.**
- **The DDA should periodically review the cost of construction of houses and take remedial measures so as to control cost of construction.**
- **Houses should be expeditiously sold after their completion. However, allotment of houses should be commenced only after ensuring basic amenities.**
- **Concerted efforts should be made to recover the outstanding dues from defaulter allottees.**
- **Certificate from the architect should be obtained to ensure that the work was executed as per approved drawings and designs.**

5.1 Introduction

The Delhi Development Authority (DDA) was established in 1957 under the provisions of Delhi Development Act to promote and secure the development of Delhi. One of the primary functions of DDA is the development and construction of housing colonies and complexes to meet the housing needs of various sections of the population. Since inception, DDA has undertaken 41 Housing Schemes of which 36 have been closed and five are underway. Houses are constructed for various economic strata such as High Income Group (HIG), Middle Income Group (MIG), Lower Income Group (LIG), Economically Weaker Section (EWS) besides schemes targeted for certain disadvantaged and needy sections such as widows/dependents of soldiers killed in battle, rehabilitation of migrants, jhuggi resettlement, housing for retiring government servants etc.

5.2 Organizational set-up

The DDA is headed by the Lt. Governor of Delhi who is ex-officio Chairman of the Authority. The day to day administration of the Authority is vested in the Vice Chairman, who is assisted by the Member (Finance) and the Member (Engineering). Housing projects/ schemes are planned by the Commissioner (Planning) who is assisted by zone wise Directors (Planning). Structural drawings and designs are prepared and finalized by the Chief Architect & Chief Engineer (Designs).

5.3 Audit objectives

The performance review of the working of the DDA was conducted to assess whether

- adequate financial controls were in position to ensure that works were being executed in accordance with sanctions.
- the works were awarded in accordance codal provisions and after ensuring appropriate land use and unencumbered site.
- execution of works and costing of houses were carried out according to prescribed procedures and specifications.
- allotment of houses was made to the intended allotees as per rules after adequate civic amenities.

5.4 Audit criteria

Audit criteria for the evaluation of the performance review were derived from the following:

- CPWD Manual and CPWD Code
- Government directives and management instructions/guidelines
- Delhi Schedule of Rates (DSR)
- Government Costing and allotment rules.

5.5 Audit Scope

Performance audit was conducted to assess the performance of DDA during the period 2002-03 to 2006-07 in the respect of construction and allotment of houses.

Out of six zones, three zones viz., Dwarka, Rohini and East Zone incurring highest expenditure during the period 2002-03 to 2006-07 were selected. All the 20 Works having expenditure more than Rs. 10 crore and 10 works having expenditure less than Rs. 10 crore were selected.

5.6 Audit Methodology

The performance audit of the DDA commenced with an entry conference on 16 April 2007 with the management in which the audit objectives, scope and criteria were explained. Audit examined the records relating to selected works executed during the period from 2002-03 to 2006-07 in the respective zones along with costing and housing records of DDA. Memoranda containing audit observations were issued to various levels of management, and audit findings were discussed in detail in an exit conference.

5.7 Financial Management and Control

5.7.1 Budget allocation and expenditure

The budget allocation, budget estimates and actual expenditure on housing schemes during 2002-03 & 2006-07 are stated below:

(Rupees in crore)

Financial Year	Budget Estimates	Revised Budget Estimates	Actual Expenditure	*Percentage* of shortfall in actual expenditure vis-à-vis Budget Estimates
2002-03	476.27	295.47	290.58	39
2003-04	607.43	426.52	327.84	46
2004-05	627.13	414.16	344.30	45
2005-06	455.22	282.73	278.15	39
2006-07	506.01	272.34	237.05	53

It would be seen from the above table that the actual expenditure was significantly less than the budget estimates over the last five years. This indicated that the budget estimates were being prepared on an unrealistic basis.

5.7.2 Expenditure incurred in excess of Administrative Approval & Expenditure Sanction (AA&ES)

Codal provisions prescribe that expenditure in excess of administrative approval and expenditure sanction should not be incurred without approval of the competent authority, and the revised expenditure sanction should be obtained as soon as the expenditure exceeds 10 *per cent* of the original sanction.

Audit scrutiny brought out the following:

- The competent authority in DDA accorded (February 2000) AA and ES of Rs. 18.86 crore for the work of construction of 102 three-bedroom and 312 two-bedroom houses at Sector-18 A, Dwarka. Audit observed that the DDA got the work of Rs. 24.05 crore executed by the contractor and made payment of Rs. 20.60 crore against Rs 18.86 crore in anticipation of obtaining the revised AA& ES. It was also noticed that the technical sanction from the competent authority for the excess expenditure of Rs. 5.19 crore was also not obtained. This was not only disregard of codal provisions but also diluted the assurance regarding quality of works as well as accuracy of estimates. The revised AA&ES as well as technical sanction were not obtained as of July 2007.
- The DDA incurred an expenditure of Rs. 5.04 crore against the AA&ES of Rs. 4.08 crore for the work relating to construction of 320 LIG houses in Pkt.-2, Block-C, Sector-17, and Rohini. Although the excess expenditure was more than 10 *per cent* of the original AA&ES, the revised AA&ES were not obtained from the competent authority as of July 2007.
- Against the AA&ES of Rs. 23.99 crore for the work relating to construction of 2016 One Room Tenements (ORT) for EWS & 504 shops in Sector-4, Rohini in March 99, the DDA incurred an expenditure of Rs. 26.73 crore, which was in excess of 10 *per cent* of

the original AA&ES. But the revised AA&ES had not been obtained as of July 2007.

Recommendation

- *Approval of competent authority should be obtained before incurring expenditure in excess of AA&ES and the revised AA&ES should be obtained.*

5.8 Targets and Achievements

5.8.1 Annual plan for construction of houses is formulated by the DDA and accordingly the targets are fixed. Targets and achievements of the Authority regarding construction of new projects/houses and ongoing projects/houses for the last five years up to 2006-07 in respect of all categories of houses (HIG, MIG, LIG and Janta) are stated below:

Year wise summary

Year	New Projects /Houses			Ongoing Projects/Houses		
	Target	**Achievement**	**Shortfall per cent**	**Target**	**Achievement**	**Shortfall *per cent***
2002-03	18966	2370	16596 (88)	6623	5521	1102 (17)
2003-04	14511	3988	10523 (72)	5919	1676	4243 (72)
2004-05	7943	3356	4587 (58)	2662	9896	2766 (22)
2005-06	10676	1670	9006 (84)	8695	2570	6125 (70)
2006-07	25556	2936	22620 (88.5)	5070	3081	1989 (39)

It is evident from the above table that the DDA could not achieve the targets in any of the year during the last five years. The shortfall ranged from 58 *per cent* to 88.5 *per cent* in respect of new projects/houses and in respect of ongoing project/houses schemes, it ranged from 17 *per cent* to 72 *per cent* despite the fact that the DDA was having adequate budgetary provisions for construction of houses. No reasons for shortfall were furnished by the DDA.

5.8.2 Delay in completion of works

Audit noticed delays in execution of all the 30 works test checked as stated below:

- Although the latest date of completion of these 30 works was June 2006, only 27 works had been completed whereas three had been rescinded.
- None of the 27 completed works was completed in time and the delay ranged from 5 months to 87 months.
- The delays in completion of works led to payment of price escalation charges during the extension period as per clause 10 CC amounting to Rs. 6.83 crore. Besides price escalation charges of Rs. 10.71 crore were paid in case of lump sum contracts.

- Delay in construction led to postponement of benefit of housing to the public.

5.9 Award of works

5.9.1 Award of works without proper land use

Works are awarded by the DDA in accordance with the provisions of the CPWD Manual[1]. Proper planning requires that land is provided to executing agencies after ensuring proper land use and unencumbered site so that execution of works may be carried out efficiently and effectively.

Audit noticed that during the year 2001 and 2002, 29.55 hectare (ha) of land was earmarked for construction of 2756 houses (1424 HIG, 727 MIG and 605 LIG) in South West Zone. The land use of the land earmarked was different from the housing purposes. The DDA awarded the work of construction of these houses without changing land use for housing purposes. As the land was earmarked for other than housing purposes, the Hon'ble High Court of Delhi imposed (September 2002) stay order on construction of houses. Land use was got changed for housing purposes in January 2004. In 2003-04 the executing agencies were asked to restart the works, but the executing agencies did not agree to start the works without revision of terms and conditions. The works were rescinded in 2004-05, and have not been rewarded as of July 2007. Thus, taking up work without obtaining permission for changing the land use, work of construction of 2756 houses could not be commenced as of July 2007.

5.9.2 Award of works before submitting plan to local bodies.

Codal provisions[®] stipulate that to avoid any infringement of building and health bye laws of local Municipal Committee/corporations, building plan should be prepared keeping in view provisions and requirements of these bye laws and before approval of NIT, approval of local bodies to the plan should be obtained. The Senior Architect (Architect) and Executive Engineer (EE) are to furnish the required drawings to concerned local bodies for their approval prior to commencement of the work.

Test check of records revealed that the DDA commenced 13 works out of 21 works (excluding 9 works awarded on lump sum basis) before submitting plan to local bodies. Commencement of work without obtaining approval of the local bodies not only violated codal provisions but could have created complications if designs had been objected to by local bodies.

5.9.3 Delay in award of works

According to provisions of the Manual[©], work should be awarded within 90 days of the opening of tenders.

[1] Sections 14 to 19
[®] Para 5.9 of CPWD Manual, Vol.II, 1998 and Section 15.2.1.3 of CPWD Manual 2003)
[©] Clause-22 of Form PWD-6

Test check of records pertaining to 30 works disclosed that the DDA made a delay ranging from 39 to 160 days in awarding nine works. Delay in award of the works *ab-initio* resulted in postponing the time schedule for execution of works. The details are exhibited in **Annex I.**

5.9.4 Award of work without ensuring availability of structural drawings and material

According to codal provisions®, no tender shall be invited unless stipulated materials are available or are likely to be received before the work commences and essential architectural and structural drawings together with specifications are ready for being made available to the contractor at the time of invitation of tenders.

Audit examination of 30 works in 18 divisions revealed that there had been delays ranging from 5 to 87 months in case of 15 works *(***Annex II***)* due to delay in making available structural drawings and/or materials. As a result, the time extension had to be granted to the contractors and the DDA had to pay Rs. 6.83 crore as price escalation charges during the extension period beyond stipulated date of completion.

Recommendations

- *Works should be awarded after ensuring appropriate land use and unencumbered site.*
- *The DDA should ensure timely availability of drawings, designs and materials to contractors.*

5.10 Contract management

Sound contract management stipulates that works are executed in accordance with contractual provisions and the prescribed specifications so that the possibility of undue delay in completion of works, poor quality of works as well as undue payments to the contractors may be eliminated.

5.10.1 Inclusion of clause (10 CC) in the lump sum contract resulted in cost escalation charge of Rs. 10.71 crore to the contractors

As per the provisions of CPWD code, in case of lump-sum contracts, the contractor agrees to execute a complete work with all the contingencies in accordance with drawings and specifications for a fixed sum, and clause 10CC is not included in the format prescribed for entering into lump-sum contracts (CPWD Form No.12).

Audit scrutiny revealed that out of 30 works, 9 works were awarded on lump-sum basis and in 7 works, clause 10CC was included. Due to incorporation of

® Section 15.2.1.3 of CPWD Manual

clause 10CC in the agreement the DDA had to pay cost escalation charge of Rs 10.71 crore as exhibited in **Annex-III.**

DDA (one division) stated (May 2007) that the works were awarded after obtaining approval of Works Advisory Board which was chaired by the Vice Chairman (DDA). The reply is not tenable as prior specific approval of the Vice-chairman for inclusion of 10CC in the lump-sum contract should have been obtained before inviting tenders.

Thus, routine inclusion of 10 CC clause in 7 works awarded on lump sum basis resulted in undue benefit of Rs 10.71 crore to the contractors.

5.10.2 Acceptance of improper document as bank guarantee

The provisions of the Manual® prescribe the format in which bank guarantee bond is to be furnished by the contractor wherever applicable.

Audit observed that as per agreement, the contractor was to provide bank guarantee bond for an amount equal to 5 *per cent* of the contract amount in respect of the following two cases:

Name of the work	Tendered cost
C/o 490 MS HIG in Sector-18B, Dwarka {490 dwelling units}	Rs. 41.63 crore
C/o 457 MS HIG in Sector-18B, Dwarka {457 dwelling}	Rs. 39.79 crore

It was noticed that the contractor furnished the so-called bank guarantee bonds of Rs. 2,07,48,475 and Rs. 1,98,45,915 dated 29 January 2002 issued by State Bank of Saurashtra, New Delhi which were valid upto 3 November 2003. It was noticed that the DDA accepted bank guarantee bonds though these were not in the prescribed format. When the Executive Engineer (EE), WD-8 directed (November 2003) the contractor to extend the validity of bank guarantees, the bank clarified (December 2003) that those were not bank guarantees and denied to bear any type of liability in this regard. But no action was taken by the DDA against the contractor. Again, the contractor furnished (January 2004) bank guarantees of Rs. 1,34,50,000 in place of Rs. 2,08,15,904 and Rs. 1,39,00,000 in place of Rs. 1,98,93,175 issued by UTI bank. UTI Bank confirmed (May 2005) that they had issued only a certificate in the form of a solvency certificate normally issued by the bank and no guarantees were issued by them. The work was rescinded on 5 December 2006. To safeguard its interest of ensuring performance guarantee, the DDA recovered an amount of Rs. 2 crore only from the bills of contractor against the required bank guarantee of Rs. 4.07 crore and no further amount could be recovered as the works had been rescinded on 5 December 2006.

® Para 22.7.1 and Appendix-33 of the CPWD Manual Vol.II

Thus, due to not ensuring the receipt of bank guarantees in prescribed format from the contractor, genuine bank guarantees could not be obtained by the DDA.

5.10.3 Extra expenditure due to absence of provision of pro-rata deduction for less consumption of cement

For preparing NIT, estimates for items of reinforced cement concrete (RCC), works are prepared on the basis of Delhi Schedule of Rates basis.

Scrutiny of records revealed that in case of 4 works out of the 30 works test checked, the NIT included the use of 410 kg and 383 kg cement for M-25 and M-20 grade RCC works. However the works were to be executed as per design mix prepared by the IIT, Delhi. It was noticed that the design mix of the 4 works **(Annex-IV)** approved by the IIT provided for lesser quantity of cement as compared to the schedule of quantities as per NIT. Therefore, provision for prorata deduction for lesser quantity of cement should have been made in the agreements. As no provision for lesser quantity of cement was made in agreements, the contractors were granted undue benefit of Rs 59.43 lakh.

While the (EE), RPD-6 stated (June 2007) that recovery on this account would be made at the time of finalization of bill, other EEs replied that actual weight was worked out taking into consideration the cement requirement as per design mix. Reply is not tenable as cement actually used was less than that considered in the item of estimate for which rates were tendered by the agency.

5.10.4 Vitiation of tendered rates on account of significant variation in quantities

Indian Standard Code (ISC), 1893 for making structures earthquake -resistant was notified by the Indian Standard Institute in November 2002, and provisions of ISC,1893 were to be incorporated in NITs for construction of structures/building works after November 2002.

The DDA invited (February 2005) tenders for construction of 260 LIG houses in Block 'J', Sector 16, Rohini, Phase II, and the work was awarded (June 2005) to the first lowest bidder (L1) at a cost of Rs. 6.01 crore. The second lowest bidder (L2) had been evaluated at an amount higher by Rs. 10000 as compared to the L1.

During the course of execution of work, significant variations in the estimated quantities were noticed by the DDA due to change in design and adoption of ISC, 1893. As a result, the entire tendering process was vitiated as the rates quoted by L1 when compared with L2 were found higher by Rs. 33.18 lakh. Had the DDA prepared the estimates correctly after incorporating provisions of ISC, 1893 in the NIT, Rs. 33.18 lakh could have been saved by awarding the contract to actual lowest tenderer.

5.10.5 Irregular payment of Rs. 1.98 crore

Before finalization of the contractor's bill, all the deviated items should be approved by the competent authority. It was, however, noticed in audit that the bills of the contactors were finalized without obtaining approval of the competent authority for the deviated items in case of the following works:

(Rupees in crore)

Sl. No.	Name of the work	Amount paid
1.	C/o198 HIG houses in sector-12 , Dwarka	1.41
2.	C/o 448 No. SRT in Sector-16A, Gr.I, Dwarka.	0.38
3.	C/o 480 No.SRT in Sector-16A, Gr.III, Dwarka	0.19
	Total	**1.98**

Due to finalization of bills of the contractors without the approval of the competent authority, the DDA made an irregular payment of Rs 1.98 crore to the contractors.

5.10.6 Non recovery of cess of Rs. 51.66 lakh

The Building and Other Construction Workers' Welfare Cess Act, 1996 provides for the levy of a cess at a rate not exceeding two *per cent* but not less than one *per cent* of the cost of construction incurred by an employer engaged in any construction work.

It was, however, observed that 6 divisions did not recover cess amounting to Rs 51.66 lakh from the final bills of contractors in respect of 8 works.

Recommendations

- *The DDA should draw up agreements keeping in view codal provisions. Exceptions like inclusion of clause 10CC in lump sum contracts should be made only for exceptional reasons and after proper authorization. Adequate provisions should be made in the agreements for safeguarding interest of the DDA.*
- *Approval of competent authority for extra/deviated items executed should be expeditiously obtained.*

5.11 Costing of constructed Houses

After completion of houses by the Engineering Wing, costing of houses is done by the Housing Finance Wing with the approval of Finance Member and the Vice- Chairman as per standard practice adopted by the DDA. Following shortcomings were noticed in finalization of costing of houses:

5.11.1 Non inclusion of element of costing of car parking and scooter garages resulted in blocking of funds of Rs. 7 crore

Before allotment of houses, all the elements of cost of the housing project/ scheme should be finalized and included in the cost so that total cost of scheme could be recovered from the allottees.

It was observed that in three housing schemes of Dwarka Zone, costing of car parking space and scooter garages was not finalized before making allotment of houses. It could not be decided whether the car parking space should be allotted on common basis or specific basis i.e., to be attached to a particular house. The rate of recovery of cost of scooter garages was fixed as Rs. 7, 200 per square meter whereas no rate of recovery of cost of car parking space allotted on specific basis existed in the costing procedure adopted by the DDA. If rate of recovery of cost of car parking is treated at par with the rate of recovery of cost of scooter garage, an amount of Rs. 7 crore was blocked due to non- finalization of cost of car parking space and scooter garages in three schemes.

FA (Housing) stated (August 2007) that disposal cost of car parking would be finalised at the time of allotment and issue of demand cum allotment letters to the allottees by the Housing Wing.

The reply of FA (Housing) is not tenable as allotment of these houses commenced in January 2007 and disposal cost of car parking and scooter garages were not included in demand letters.

5.11.2 Blocking of funds of Rs. 4.98 crore due to non finalization of the costing.

The cost of 72 LIG houses which were part of the housing scheme consisting of 504 MIG and 360 LIG in Sector-18-B, Dwarka, could not be finalized as the plinth area of LIG houses was more than the plinth area of MIG houses constructed in the same scheme. Due to non-finalization of cost, these 72 LIG houses could not be put up for disposal and an expenditure of Rs. 4.98 crore remained blocked.

FA (Housing) stated (August 2007) that costing of these flats was not finalized as there was no category or rates to deal with such type of flats in the standard costing. He further added that decision of management wing to re-categorise these flats was still awaited.

5.11.3 Increasing trend of construction cost

The cost of construction and land rates constitute two major cost components for fixation of disposal cost of houses. While cost of land for various categories of houses is taken at predetermined rates (PDR) fixed by the Ministry of Urban Development on 1 April of each year, construction cost is worked out as per standard costing adopted by DDA. As per standard costing, the Plinth Area Rate (PAR) of construction cost is reviewed/ revised on half yearly basis effective from 1 April and 1 October of each year on the basis of actual costing data of construction received from Engineering Wing. In case no data is received from Engineering Wing in respect of a particular category, PAR for the previous half year is taken as base and increase in the ratio of cost index of CPWD in the relevant period is added to it. No element of profit is added in the disposal cost.

Scrutiny of data pertaining to PAR fixed by the DDA during the period April 2002 to September 2007 revealed that PARs for Janta, LIG, MIG and HIG/SFS category houses increased upto 17 *per cent*, 39 *per cent*, 67 *per cent* & 76 *per cent* respectively. There was increase of 44 *per cent* in CPWD PAR cost index during the period April 2002 to September 2007. Thus in respect of MIG, HIG and all categories of houses, increase in PAR was much higher than the increase in CPWD PAR cost index (44 *per cent*). No efforts were made by DDA to analyse reason for the increase in the cost of houses or to control it.

Recommendations

- *All the elements of cost of the housing project/ scheme should be finalized and included in the cost so that total cost of scheme could be recovered from the allottees.*
- *The DDA should periodically review the increasing trend of cost.*

5.12 Allotment of houses

5.12.1 Non-disposal of constructed houses

After construction of houses by the Engineering Wing and finalization of costing by the Financial Advisor (Housing), houses are allotted by the Commissioner (Housing). The constructed houses are required to be disposed of as early as possible to avoid blockade of funds as well as dilapidation of constructed houses with the passage of time. Audit scrutiny brought out the following:

- As on 31 March 2007, 11650 houses of different categories located at Dwarka, Rohini, Vasant Kunj, Paschim Vihar, Kondli Gharoli and Narela constructed upto 2001-02 were pending for disposal.
- The Housing Department of DDA failed to furnish the information about number of houses of different category pending for disposal as of 31 March 2007 or as of a later date. It was, however, noticed that out of 3721 constructed houses of test checked 10 new housing works completed during 2002-03 to 2005-06, 592 houses were pending for disposal as of 31 August 2007.
- As on 31 March 2006, 7396 HIG/MIG houses (2981 HIG and 4415 MIG) were available for disposal. DDA launched (2006) the "DDA Housing Scheme 2006" but placed for disposal only 3,500 HIG/ MIG

houses out of the available 7396 houses. DDA has launched the following major housing schemes during the period 2002-03 to 2006-07:

Sl. No.	Name of the scheme	Houses proposed for sale in the scheme	No. of applications received.
1.	Dwarka and Sarita Vihar HIG Scheme-2002	1100	5722
2.	Two bed room housing scheme-2004	1500	93775
3.	Festival Housing Scheme – 2004	2500	164177
4.	DDA housing scheme-2006	3500	200506
Total			**464180**

It is evident that there was tremendous response for allotment of houses from the general public. Despite this, only 3,500 HIG and MIG houses out of the available 7396 houses were placed for disposal in the housing scheme-2006.

Thus inordinate delay in disposal of constructed house not only deprived the public of benefit of housing, but the DDA's funds which would amount to more than Rs 1000 crore also remained locked up while the properties created suffered dilapidation. For instance, possession of six expandable houses at Nasirpur/ Bindapur that were part of "DDA Housing Scheme 2006" was refused by the allottees on the grounds that the houses were very old and were in dilapidated conditions and sufficient infrastructural facilities commensurate with the cost of houses were not available.

5.12.2 Non allotment of houses to long awaiting applicants

DDA launched New Pattern Registration Schemes, 1979 (NPRS 79) for various categories of houses. As there was no sufficient reservation for Scheduled Caste and Schedule Tribe registrants in NPRS 79, Ambedkar Awaas Yojana, 1989 (AAY 89) was launched. It was observed that while 1043 and 449 applicants in respect of NPRS 79 and AAY 89 respectively were waiting for allotment, there was a closing stock of 9644 LIG houses as on 31 March 2007. Thus, despite sufficient number of houses available for allotment, the intended beneficiaries could not be allotted houses even after waiting for more than 27 years in case of NPRS 79 and 17 years in case of AAY 89.

5.12.3 Non-allotment of constructed houses to the targeted group

Housing scheme relating to construction of 34 work places and 34 tenements at Mangolpuri was launched with the objective of allotting work places and houses to the Gadia Lohar Community. The scheme was completed on 04 April 2003, and the disposal cost of these houses/shops worked out to Rs. 60.01 lakh as on March 2007. These houses/shops have not been allotted to the community even after an expiry of more than 4 years.

5.12.4 Unnecessary conversion of houses to staff quarters

75 Type-III Staff quarters were lying vacant as on 30 August 2003. Yet, 79 two bedroom houses having the cost of Rs. 14.27 lakh per house were

converted into category of Type-III staff quarters in September 2003. Out of these 154 quarters, 88 were lying vacant as on 31 March 2007. This indicates that the decision to convert the above houses into staff quarters was not based on proper assessment of need. This led to the blocking of funds amounting to Rs. 11.27 crore.

5.12.5 Allotment of houses without completion certificate

As a measure of safety, the houses should be allotted after the completion certificate has been recorded by the competent authority. It was observed that in respect of six schemes, 1515 houses were allotted and possessions given to general public without the completion certificate of competent authority, which suggested that safety considerations were grossly overlooked. The details are given in **Annex-V.**

5.12.6 Construction of houses of unacceptable design under Janta category

Audit test check brought out that the DDA had constructed 7412 one/single room tenements houses in Dwarka and Rohini Zone for the benefit of the economically weaker section of society. The houses were allotted to the wait listed registrants of the Janta category. The allottees of these houses expressed their displeasure/unwillingness to accept these houses as they had different designs as compared to the regular Janta houses. Besides, no kitchen was provided in these flats and the area of these houses was also less than the specified area of the Janta houses. As a result, the DDA amalgamated two units into one unit, and allotted them to Government departments, and economically weaker sections of society were deprived of the benefit of housing facilities.

5.12.7 Allotment of houses without basic amenities

- To ensure supply of potable water in the housing colonies developed by the DDA, infrastructure fund, calculated on the basis of average water requirement of the area, is required to be deposited with the Delhi Jal Board. It was observed that despite depositing infrastructure fund of Rs. 4.71 crore for seven schemes at Bakkarwala and Rohini with the Board from August 2004 to March 2007, no supply of water was made available by the Board to the housing complex. The water was being supplied through tankers and bore water to the allottees of houses by the DDA.
- The work relating to construction of 2016 ORT in Sector-4, Rohini was awarded with stipulation to complete it by 14 December 1999. The work was still in progress, and only two pockets were completed in 2002 and allotment of houses was made to rehabilitate the Jhuggi Dwellers of Motia Khan. It was noticed that a deposit of Rs. 79.67 lakh was made to Delhi Jal Board as infrastructure fund for supply of water, but water supply was not received from Delhi Jal Board and water was

being supplied through tankers for which an expenditure of Rs. 41.30 lakh had been incurred during the period 2002-03 to 2006-07.

- Five housing projects covering construction of 5496 LIG houses were taken up by the East Zone (Eastern Division 2 & 3) at Bakkarwala. Allotment of houses commenced in March 2007 and up to June 2007, 376 houses were allotted to the general public without ensuring availability of electricity.

5.12.8 Non recovery of installment of houses

According to allotment rules, if an allottee fails to deposit the dues within a period of six months, his allotment may be cancelled. There were huge overdues against the allottees as detailed below:

Year	Amount (in crore of Rs.)
2002-03	874.63
2003-04	941.94
2004-05	858.80
2005-06	909.06
2006-07	836.28

As may be seen from the table , there had been no substantial decrease in the outstanding amount of arrears over the last five years upto 2006-07 indicating that effective efforts were not made to recover the outstanding amount or to cancel the allotment of houses as per prescribed rules. It was also noticed that the exact number of allottees from whom the dues were recoverable was also not available with the DDA.

Recommendations

- *Houses should be allotted after their completion without delay.*
- *Allotment of houses should be commenced after ensuring all basic amenities*
- *Concerted efforts should be made to recover the outstanding dues from defaulter allottees.*

5.13 Quality Assurance

As per provisions of the Manual, the Architect of the work should certify on completion of a particular building that it has been constructed according to approved design and specifications. It was, however, observed that out of the 30 housing works test checked in performance audit, no certificate was obtained in respect of 12 works involving construction of 6417 houses from the Architect. DDA did not furnish information in respect of the 18 works. The DDA stated that no such practice was being followed by them.

The reply is not tenable as the certificate is a significant tool for providing reasonable assurance regarding quality of works.

Recommendation

- *Certificate from the architect should be obtained to ensure that the work was executed as per approved drawings and designs.*

Acknowledgement

Audit acknowledges the co-operation and assistance extended by different levels of management of the DDA at various stages of conducting the performance audit.

The matter was referred to the Ministry in September 2007; their reply was awaited as of December 2007.

(A.K. THAKUR)
Director General of Audit
Central Revenues

New Delhi
Dated: 20 March 2008

Countersigned

(VINOD RAI)
Comptroller and Auditor General of India

New Delhi
Dated: 24 March 2008

Annex I

(Referred to in paragraph 5.9.3)

Delay in award of work

S. No.	Division	Name of Work	Date of opening of tender	Date of award of work	Delay in award of work (in days)
1.	SWD-7	C/o 1760 Janta Flats aSec.16-B, Pkt-B, Dwk, Phase-II SH: C/o 480 Janta flats	4-6-01	29-10-01	57
2.	RPD-I	C/o 2016 ORT for EWS houses & 504 shops at Sec.-4, Rohini	29-12-97	5-9-98	160
3.	RPD-8	C/o 320 LIG houses, Sec.-17, Rohini	22-9-97	29-1-98	39
4.	RPD-4	C/o 630 LIG houses on turnkey basis at Sec.-18, Pkt.-3, Rohini	7-12-01	2-5-02	56
5.	ED-2	C/o LIG houses on turnkey basis at Bakkarwala, pkt.A	30-7-01	10-1-02	74
6.	ED-2	C/o LIG houses on turnkey basis at Bakkarwala, pkt.C	30-7-01	18-3-02	141
7.	ED-3	C/o LIG houses on turnkey basis at Bakkarwala, pkt. B-1	15-3-02	26-8-02	74
8.	ED-3	C/o LIG houses on turnkey basis at Bakkarwala, pkt.B-2	30-8-01	10-1-02	43
9.	SWD-6	C/o LIG Houses in turnkey basis at Sec.14, Dwk,Ph-II	30-8-01	10-1-02	43

Annex II

(Referred to in paragraph 5.9.4)

Delay in completion of work

Sl. No.	Division	Name of work	Stipulated date of completion	Actual date of completion	Delay in completion *(In Months)*	10cc paid beyond stipulated date *(Rupees in lakh)*
1.	WD-3	C/o 264 MIG in Sect-12, DWK (Gr.I) C/o 136 MIG Houses	24-5-2002	06-09-2003	15	6.47
2.	WD-8	C/o 504 MIG & 360 LIG Houses in Sec-18B, DWK, Phase-II	22-8-2003	06-06-2005	21	314.59
3.	SWD-7	C/o 1760 Janta Flats at Sec.16-B, Pkt-B, Dwk, Phase-II SH: C/o 480 Janta flats	07-8-2003	18-05-2004	9.5	4.79
4.	SWD-6	C/o 272 LIG Houses Gr.II in Sec-16B, Pkt.30, Dwk-Ph-II	21-11-2001	22-07-2004	32	23.71
5.	SWD-9	C/o 4100 SRT at Sec.16-B, Pkt.14, -II SH: C/o 400 SRT (Gr.III)	10-04-2001	12-09-2001	5	6.40
6.	WD-8	C/o 490 HIG, Sec.18-B, Pkt.-2, DWK	03-11-2003	Work rescinded on 5-12-06		27.40
7.	WD-8	C/o 457 HIG Sec.18-B, Pkt.-2, DWK	03-11-2003	Work rescinded on 5-12-06		30.09
8.	WD-12	C/o 102, three Bed Room, 312, two bed room 18-A, Dwk (VVAY)	13-08-2002	31-12-2003	16.5	9.50
9.	WD-13	C/o 1472 SRT. SH: C/o 448 SRT at Sec.16-A, Dwk.	09-12-2001	20-12-2003	24	16.87
10.	WD-13	C/o 1472 SRT SH: C/o 480 SRT, Gr.III at Sec.16-A, Dwk	09-12-2001	30-09-2003	22	6.51
11.	RPD-I	C/o 2016 ORT for EWS houses & 504 shops at Sec.-4, Rohini	14-12-1999	Work in progress	87	28.69
12.	RPD-6	C/o 93 MIG houses in Pkt.1/3 Sec-23, Rohini	13-11-2002	11-03-2004	16	2.99
13.	RPD-8	C/o 320 LIG houses, Sec.-17, Rohini	07-02-2000	31-08-2002	31	29.18
14.	RPD-10	C/o 520 SFS houses in Pkt.-I, Sec.-18, Rohini	21-09-2000	31-12-2002	27	158.69
15.	RPD-12	C/o 1840 ORT in Sector 26, Rohini SH-C/o 496 ORT in Group II	23-06-2001	10-03-2003	20.5	16.70
Total						**682.58**

Annex III

(Referred to in paragraph 5.10.1)

Extra payment due to inclusion of clause-10cc in lumpsum contract

S. No.	Division	Name of Work	10cc paid *(Rupees in crore)*
1.	ED-2	C/o LIG houses on turnkey basis at Bakkarwala, pkt.A	1.41
2.	ED-2	C/o LIG houses on turnkey basis at Bakkarwala, pkt.C	2.13
3.	ED-3	C/o LIG houses on turnkey basis at Bakkarwala, pkt. B-1	2.01
4.	ED-3	C/o LIG houses on turnkey basis at Bakkarwala, pkt.B-2	1.52
5.	ED-3	C/o LIG houses on turnkey basis at Bakkarwala, pkt.D	1.83
6.	RPD-4	C/o 630 LIG houses on Turn key basis at Sec-18 , Pkt.-3, Rohini	1.27
7.	SWD-6	C/o LIG Houses on turnkey basis at sector-14, Dwarka, Phase-II	0.54
Total			**10.71**

Annex IV

(Referred to in paragraph 5.10.3)

Extra cost incurred due to inadequate provisions in the agreement

S. No.	Name of the work	Item no of agreement	Grade of cement	Quantity executed	Cement to be used as per DSR* in Kgs	Actual cement consumed (in Kgs)	Difference per cubic metre	Total cement less used.
1.	C/o 568 HIG DUs in W.D.-6, Sec.18-B, Dwarka Phase-II. SH:C/o 266, HIG DUs S.Gr.I	1.8	M-25	2497.53	410	370	40	99901.20
		4.1	M-25	1842.34	410	370	40	73693.60
		4.2	M-20	7090.32	383	320	63	446690.16
		SIS No.1	M-20	3717.17	383	320	63	234181.71
2.	C/o 568 HIG DUs in W.D.-6, Sec.18-B, Dwarka Phase-II. SH:C/o 302, HIG DUs S.Gr.II	1.8	M-25	2875.88	410	370	40	115035.20
		4.1	M-25	2178.87	410	370	40	87154.80
		4.2	M-20	8180.03	383	320	63	515341.89
		SIS No.1	M-20	3885.52	383	320	63	244787.76
								1816786.32
		Cost of 1816.79 MT @ Rs. 2525 = Rs. 45.87 lakh (A)						
3.	C/o 620 LIG Houses in Pkt.-4, Dwarka, Phase-I	3	M-25	12437.10	410	370	40	497484
				Cost of 497.48 MT @ Rs. 2525 = Rs. 12.56 lakh (B)				
4.	C/o 93 MIG Houses in Pkt.-11-B, RPD-6, Sec.23, Rohini	3.1	M-25	432.56	410	400	10	4325.60
		3.2(a)	M-20	780.27	383	355	28	21847.56
		3.2(b)	M-20	468.59	383	364	19	8903.21
		3.3(a)	M-20	85.74	383	355	28	2400.72
		3.3(b)	M-20	112.76	383	364	19	2142.44
								39,619.53
	Cost of 39.620 MT @ Rs. 2525 = Rs. 1.00 lakh (C)							
Total of (A+B+C) = Rs. 59.43 lakh								

* Delhi Schedule of Rates

Annex V

(Referred to in paragraph 5.12.5)

Allotment of houses before completion of schemes

Sl. No.	Division	Name of work	Actual date of completion	Date from which allotment commenced	No. of houses allotted before completion of work
1.	ED-2	C/o LIG houses on turnkey basis at Bakkarwala, Pkt. A	25-5-07	December 06	53
2.	ED-3	C/o LIG houses on turnkey basis at Bakkarwala, Pkt.B-1	Yet to be recorded	31-3-07	115
3.	ED-2	C/o LIG houses on turnkey basis at Bakkarwala, Pkt.C	14-3-07	December 06	150
4.	RPD-4	C/o 630 LIG houses on turnkey basis at Sector-18, Pkt.-3, Rohini	Yet to be recorded	269 flats have been allotted upto 30-4-07	269
5.	RPD-1	C/o 2016 ORT for EWS & 504 shops at Sec-4, Rohini	In progress	Allotment started before recording completion.	778
6.	WD-12	C/o 102, three Bed room, 312 two Bed room 18A, DWK (VVAY)	3-12-03	31-3-03	150
Total					**1515**