4. Vocational Education

4.0 Introduction

India's transition to a knowledge-based economy requires a new generation of educated and skilled people. There is a growing demand for skilled workers but data suggests that this demand is not met by the existing system. As a result there is a mismatch between the skilled manpower required and the skilled manpower available. In order for the system to become more relevant in the changing context, there is a need to create a model of imparting vocational education that is flexible, sustainable, inclusive and creative. Even the Knowledge Commission has recommended a flexible vocational education system in the country. The National Institute of Open Schooling (NIOS) with its all inbuilt flexibilities and openness is the key institution in fulfilling this demand and also ensuring proper certification.

The objectives of the Vocational Education Programme of NIOS are (i) to meet the need for skilled and middle-level manpower for the growing sectors of economy, both organized and unorganized; (ii) to prepare students for self-reliance and gainful self-employment, (iii) to attract sizeable segments of population to varied vocational education courses, and (iii) to enhance individual employability by providing professional skills in the vocations. These are also envisaged in the curriculum framework for vocational education through open and distance learning being prepared by NIOS. The range of Vocational Education courses has been expanding over the years depending upon needs of learners and market demands. The present Vocational Education courses relate to both urban and rural sectors.

4.1 Qualitative Improvement

In keeping with the larger objectives of the Eleventh Five Year Plan, the future thrust of the NIOS vocational courses is on training of educated unemployed youth for meaningful, skill oriented employment. In the coming years, the plans for course development include launching of traditional as well as non-traditional technology oriented and competency based courses.

4.1.1 Curriculum Framework in Open Vocational Education –

The NIOS during 2006-07 initiated an exercise to develop the Curriculum Framework for Open Vocational Education(CFOVE) through open and distance learning mode. A document titled **Vocational Education through Open Distance Learning** was prepared. The draft CFOVE enumerates some of the future tasks e.g., curriculum related challenges, outreach related challenges, methodology related challenges, and organization related challenges. The Curriculum Framework states that ODL is the system that is in a unique position to meet the challenges of vocational and technical education by virtue of its mode of delivery, its flexibility of design and implementation, its commitment to deprived learners, the innate use of technology of remote learning, the demand of work force – both employed and unemployed and the demands of life long learning for all. This Draft CFOVE was discussed in the Regional Workshops organized at Bhopal, Mysore, Puri and Delhi. Based on the feedback from the Workshops, the CFOVE is being finalized.

4.1.2 Collaborations/Partnership

Innovative public-private partnerships are needed to meet the diverse skill needs of the informal sector – which involves not only training but support services such as running a small business, marketing and information on technology. With a view to bring about improvement in the quality of training being imparted, and to get recognition and the importance of the Vocational Education and Training(VET) through ODL mode, NIOS has initiated action for collaboration/partnership with various organizations.

One such partnership was materialized with CISCO.

Partnership with CISCO

As a follow up to the CII meeting held last year , unit level interaction with CISCO was arranged by CII in January 2006. An MOU has been signed with CISCO for online course related to hardware, namely, Certificate in IT Essentials; PC Hardware and Software .The course would be implemented in selected Accredited Vocational Institutes(AVIs) of the NIOS. In the first phase, eight AVIs have been selected for this programme .The duration of the course is six months. The course contains 30 hours of practical training. About 100 students would be trained per year per AVI. The programme module for theoretical component is already available with CISCO online and same will be made available to the registered NIOS learners pursuing this course.

4.1.3 Guidelines for Accreditation of new AVIs

In order to improve the quality of the programmes being conducted by the partnering institutions, more rigorous parameters are being drawn up for accrediting new institutions, to ensure better transparency and objectivity in the process. The existing guidelines for accreditation were revised and modified the with the help of a committee of experts. These include the procedure for submitting the application, application format, guidelines for the screening committee, mechanism for performance, and monitoring of the programmes in the study centres (AVIs).

4.1.4 Monitoring of Programmes

Appointment of Vocational Education Facilitators (VEFs)

With a view to ensure quality of the Vocational Education Programme in the AVIs, it was decided to appoint professionals to monitor the performance of the AVIs. In the first phase, 18 Vocational Educationa Facilitators (VEFs) were appointed in the Delhi Region.

4.2 Material Development

Variety of courses in areas of Health and Para Medical, Engineering and Technology, Home Science, Computer and IT, Agriculture, Business and Commerce, and Teacher Training have been prepared for VE programme delivery through AVIs. The number of Vocational Education Courses have increased from a few courses in 1991 to 76 courses till 2007. The entry level for the NIOS Vocational Education Courses is from neo literates to 12th pass. At present the Vocational Education Courses are offered as Six Months courses, One Year courses, Stand-alone courses at Secondary and Senior Secondary level, Package Course and Life Enrichment Courses.

Several workshops were organized for development of courses in the field of Health and Paramedical, Computer Science, Home Science Business and Commerce, Teacher Training, Agriculture and Engineering and Technology. Some of them are: Homeopathic Dispensing, Insurance, Community Health Worker, Web Designing, Four Wheeler Mechanism, Gram Sakhi, Vermi Composting, Mushroom Production etc.

NIOS had been in negotiation with the Department of Alternative Medicine, Ministry of Health and Family Welfare for grant of approval of the NIOS course in Homeopathic Pharmacy. The aim of introducing the course is to provide qualified manpower for dispensing Homeopathic medicines in Government Hospitals and Private Clinics all over the country. The proposal was well received by the Department of AYUSH.

The new VE courses introduced during 2006-07 include: Certificate in Web Designing, Certificate in Four Wheeler Mechanism, Certificate in Two Wheeler Mechanism, Certificate in Footwear Design and Development, Certificate in Mushroom Production, Certificate in Bee Keeping, Certificate in Gram Sakhi (Hindi medium), Certificate in Vermi-Composting, Certificate in Plumbing, Certificate in Security Services and Certificate in Stenography (Urdu).

4.2.1 Translation of VE Courses

The following Self Instructional Material (SIM) in Vocational Education were translated during 2006-07.

Elderly Care (English to Hindi), Footwear Design and Production (English to Hindi), Two Wheeler Mechanism (English to Hindi), Yog (English to Hindi) Toy Making and Joyful Learning (English to Hindi), and Gram Sakhi (Marathi to Hindi).

As per need, some of the courses have been developed/translated into Urdu also. These include: Stenography, Typewriting, Secretarial Practice, Computer Science, Early Childhood Care and Education, and Library Science. Apart from these, work has been initiated for translation of Vocational Education Course in Modern Secretarial Practice, Four Wheeler Chassis Mechanism, Four-wheeler Engine Mechanism, Two Wheeler Mechanism, Vermicomposting, Preservation of Fruits and Vegetables, and Care of the Elderly.

4.3 Networking

NIOS functions through a network of Accredited Vocational Institutes for imparting skill based training to its learners. The existing institutions like ITIs, Jan Shikshan Sansthans, Krishi Vigyan Kendras, Schools, Colleges, District Institutes of Education and Training(DIETs), Universities, Paramedical Training Centres, NGOs and several other Voluntary Agencies are partnering with NIOS in imparting Vocational Education. In the last few years, there has been substantial increase in the number of AVIs (Refer Table 1.1 in the Annexure 1). With accreditation of 59 AVIs during 2006-07, the total number of AVIs as on 31.3.2007 was 1004.

4.4 Admission

The enrollment of students in Vocational Education Courses has been increasing progressively during the last few years except for marginal variations during the years 2005-06 and 2006-2007. Table 1.2 in the Annexure 1 shows enrollment in Vocational Education Course from 1997to 2006. During the year 2006-07, the enrollment of students in various Vocational Education Courses was 22,166.

Admission to vocational education courses of NIOS is open round the year. During the year 2006-07, admission in various courses was done through a
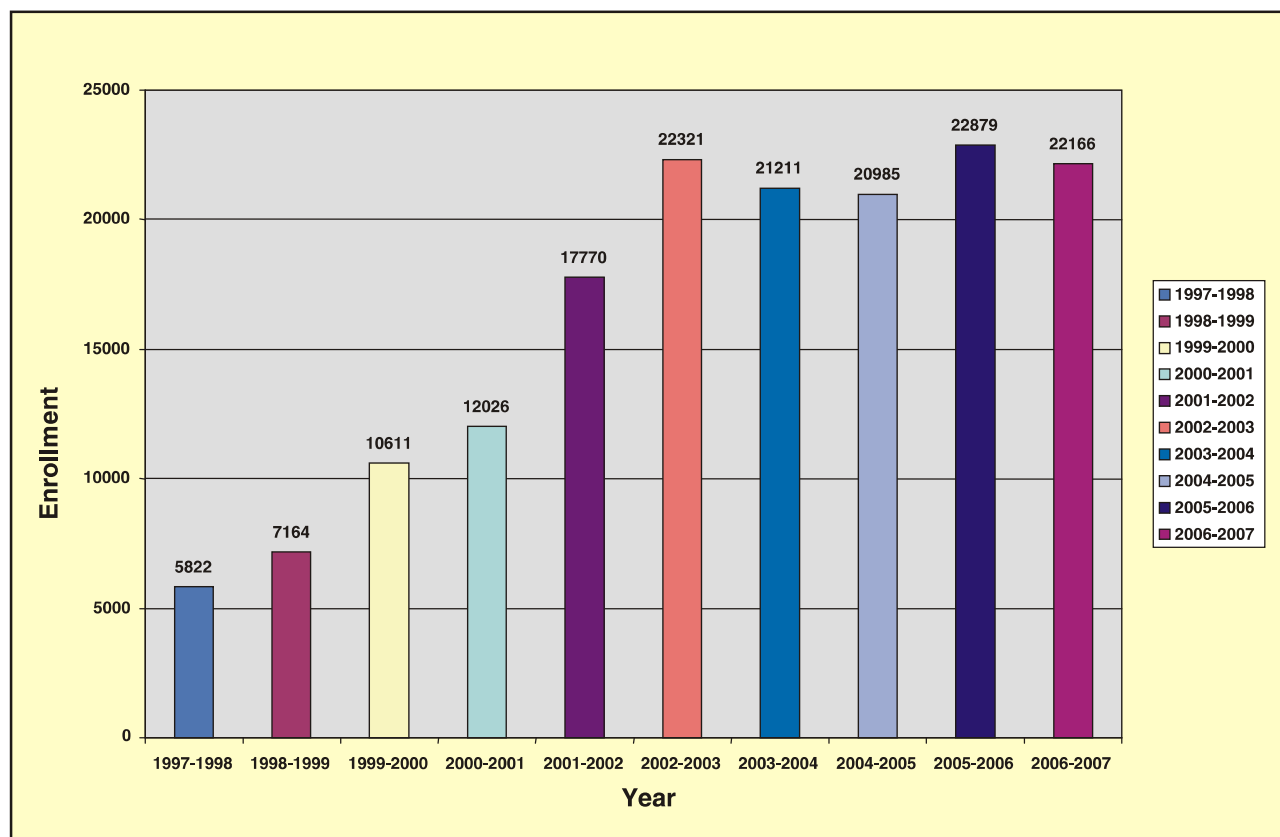
Table 4. 1 State-wise Enrollment in Vocational Education Courses during 2006-07

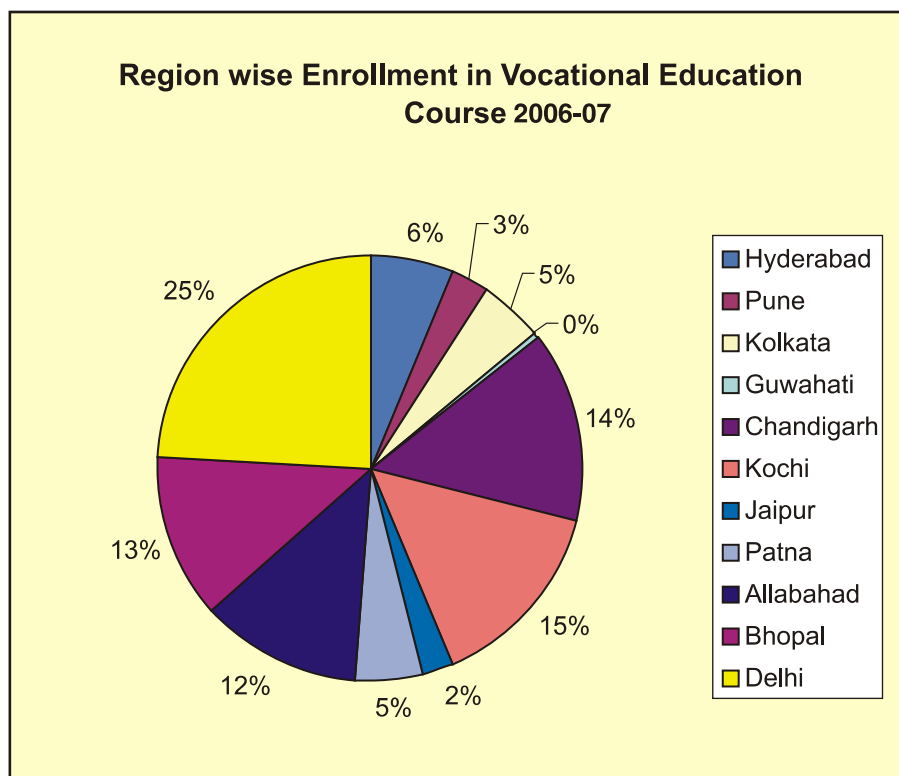| S. No.	Name of the State	Enrollment in Vocational Education Courses	Percentage of Students vis-à-vis Total Enrollment
1.	Andhra Pradesh	502	2.26
2.	Assam	93	0.41
3.	Bihar	727	3.27
4.	Gujarat	58	0.26
5.	Haryana	1088	4.90
6.	Himachal Pradesh	813	3.66
7.	Jammu & Kashmir	798	3.60
8.	Karnataka	864	3.89
9.	Kerala	2413	10.88
10.	Madhya Pradesh	2349	10.59
11.	Maharashtra	501	2.26
12.	Orissa	369	1.66
13.	Punjab	732	3.30
14.	Rajasthan	422	1.90
15.	Tamil Nadu	652	2.94
16.	Uttar Pradesh	2567	11.58
17.	West Bengal	698	3.14
18.	Chandigarh	324	1.46
19.	Goa	52	0.23
20.	Pondicherry	100	0.45
21.	Delhi	5134	23.16
22.	Uttarankhand	215	0.96
23.	Jharkhand	374	1.68
24.	Chhattisgarh	301	1.35
25.	Daman & Diu	-	-
26.	Manipur	-	-
27.	Meghalaya	-	-
28.	Nagaland	-	-
29.	Arunachal Pradesh	-	-
	Total	**22166**	

network of about one thousand **AVIs** all over India. The number of students admitted to vocational stream was 22,166. Table 4.1 shows the enrollment State/Union Territory wise.

The region wise enrollment trend shows that the highest enrollment was in the Delhi region followed by the Kochi region and the Chandigarh region. The Guwahati region had the lowest enrollment. Table 4.2 shows Region wise enrollment.

Table 4.2 Region-wise Enrollment in Vocational Education Courses during 2006-07

Sl. No	Region	Enrollment
1.	Hyderabad	1366
2.	Pune	553
3.	Kolkata	1067
4.	Guwahati	93
5.	Chandigarh	3023
6.	Kochi	3165
7.	Jaipur	480
8.	Patna	1101
9.	Allabahad	2567
10.	Bhopal	2650
11.	Delhi	5134
	Total	**22,166**

Region wise Enrollment in Vocational Education Course 2006-07

- Hyderabad
- Pune
- Kolkata
- Guwahati
- Chandigarh
- Kochi
- Jaipur
- Patna
- Allabahad
- Bhopal
- Delhi

6%, 3%, 5%, 0%, 14%, 15%, 2%, 5%, 12%, 13%, 25%

The enrollment data reveals that maximum number of students taking admission in Vocational Education Courses of NIOS was in the age group 15-20 years i.e., 46.8 %.Table 4.3 shows that there is not much variation in the percentage of males and females taking admission in Vocational Education Courses. Of the total students admitted in the Vocational Education Courses, 51.1 percent were male and 48.9 percent were female.

Table 4.3 Age-wise Distribution of Enrollment in Vocational Education Courses during 2006-07

Age Group	Enrolment					% of Total
	Male	%	Female	%	Total	
15-20 Yrs	5555	49.0	4829	44.56	10384	46.84
20-25 Yrs	2742	24.20	3167	29.22	5909	26.65
25-30 Yrs	1058	9.33	1344	12.40	2402	10.83
30-35 Yrs	407	3.59	637	5.87	1044	4.7
35-40 Yrs	280	2.47	267	2.46	547	2.46
>40 Yrs	1287	11.36	593	5.40	1880	8.48
Total	11329	51.1	10837	48.9	22166	

Age wise distribution of Enrollment in Vocational Education Courses 2006-07
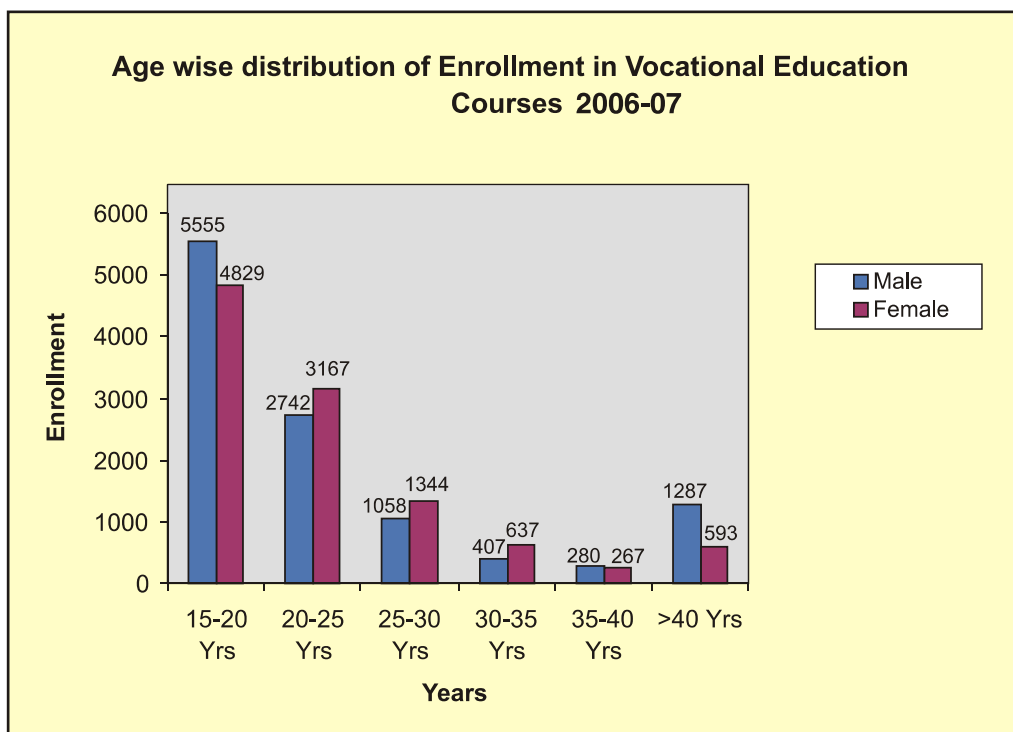
Table 4.4 shows that of the total enrollment in Vocational Education Courses, the percentage of disadvantaged learners was very small i.e., 15%, and the remaining learners were in the general category.

There are certain Vocational Education Courses which are very popular. Table 4.5 shows the course-wise enrollment. Enrolment trends show that Early Childhood Care and Education, Cutting, Tailoring and Dress Making, Certificate in Computer Application, Jan Swasthya, Electrical Technician, Beauty Culture, Welding Technology, Yog etc., are the most popular courses among the students.

Table 4.4 Category-Wise Enrolment in Vocational Education Courses 2006-07

Category	No .of learners Enrolled	% of the Total
General	18920	85.3
Handicapped	26	1.3
SC	3159	14.25
ST	58	0.26
Ex-Servicemen	3	0.01
Total	22166	

Table 4. 5 Enrolment in Vocational Education Courses during 2006-07

S. No.	Course	Total
	Six Months Courses	
1.	House Wiring and Electrical Appliances Repairing	266
2.	Motor and Transformer Rewinding	36
3.	Radio and Tape Recorder Repairing	05
4.	T.V. Repairing	15
5.	Cutting and Tailoring	999
6.	Dress Making	169
7.	Library Attendant	05
8.	Certificate in Basic Computing	311
9.	Plumbing	143
10.	Beauty Culture	1231
12.	Certificate in DTP	562
13.	Certificate in YOG	584
14.	Certificate in Security Services	379
15.	Certificate in Computer Hardware	338

	One Year Courses	
16.	Electrical Technician	**1883**
17.	Radio and TV Technicians	**447**
18.	Cutting, Tailoring and Dress Making	**1993**
19.	Library Clerk	**04**
20.	Refrigeration and Air Conditioning	**905**
21.	Certificate in Computer Application	**3279**
22.	Certificate in Two Wheeler Mechanism	**145**
	Life Enrichment Courses	
23.	Paripoorna Mahila	**03**
24.	Jan Swasthya (Community Health)	**3378**
25.	YOG	**01**
	Stand Alone Courses **(Secondary Level)**	
26.	Carpentry	**22**
27.	Solar Energy Technician	**9**
28.	Laundry Services	**16**
29.	Bakery and Confectionary	**251**
30.	Welding Technology	**326**
	Stand Alone Courses **(Senior Secondary Level)**	
31.	Typewriting (Hindi)	**33**
32.	Typewriting (English)	**125**
33.	Stenography (Hindi)	**60**
34.	Secretarial Practice	**1**
35.	Word Processing	**241**
36.	Housekeeping	**16**
37.	Catering Management	**311**
38.	Food Processing	**31**
39.	Hotel Front Office Management	**32**

Package Course			
40.	Secretarial Practice (PA/PS) Course	509	
41.	Diploma in Radiogarphy	74	
42.	Certificate in Library Science	360	
43.	Certificate in ECCE	2459	
44.	Diploma in Basic Rural Technology	26	
45.	Diploma in Modern Secretarial Practice	56	
46.	Certficate in Toy Making and Joyful Learning	10	

A state-wise list of Accredited Vocational Institutions of NIOS is at Annexure I.

The enrolment data in Vocational Education courses from 1997-98 to 2006-07 is at Annexure II.

4.5 Meeting of the Coordinators of the AVIs

The NIOS organised Orientation Programme for the Coordinators of Study Centres (AVIs) in order to facilitate the work of Study Centers and make them acquainted with the changes in the scheme of studies as well as in other activities of NIOS.

The main objectives of these meetings were:

i.   To acquaint the participants with various aspects of the Open Vocational Education programme.

ii.   To discuss the difficulties faced in implementation of the Open Vocational Education Programme.

iii. To identify the issues and problems of AVIs and discussing the possible solutions for the same.

iv.   To provide information on the courses that are under development.

v.   To identify new and innovative Vocational Education Courses which may be developed in future.

In these programmes, matters related to examination, administration and vocational academic issues were discussed and problems were solved. Besides these matters, procedures for admission and accreditation were also explained to the Coordinators. These meetings were organized in all the Regional Centers of NIOS. The Coordinators of the AVIs were apprised of the changes and other new courses introduced.