

# **CHAPTER 4: TRAINING ON THE USE OF INFORMATION & COMMUNICATIONS TECHNOLOGIES**

## **4.1 Status of ICT in Education Sector**

The quality of human resources is a major factor of success for all nations in the new millennium. The move towards globalisation requires a fundamental shift in thinking about the methodology of education. The importance of information, underscores the importance of adopting ICT in the education sector. Most important, transformation in education and learning requires a shift from the traditional methods where one confronts many learners with a textbook to a system where students learn through the use of various multimedia facilities such as computers, internet, etc.

ICT indicators related to education can help to assess certain aspects of universal access to education at all levels as well as the use of ICTs to achieve some of the national goals for education and development. Data on ICT in schools can help policy makers take informed policy decisions on investing in ICT for education or implementing measures to improve learning outcomes through the use of ICT. The ongoing international debate on ICT indicators has identified specific core indicators related to education; hence in that vein, our survey has also addressed the question of ICT use for educational purposes. Core indicators measure the student-to-computer ratio in primary and secondary schools, the proportion of schools having Internet access for students, or the proportion of students enrolled in tertiary education in an ICT field.

The availability of computers in the education sector is still very low; the national student to computer ratio is 142 students per computer. Results in table 21 indicate that on average the student computer ratio was 1: 286 in the Lower Basic schools, which is too high for students to learn anything. The utilization of ICT should improve to ensure that the student to computer ratio in schools to allow teachers teach the skills students need in using computers to their educational advantage.

The national estimate of student to PC Ratio shows that every single computer is shared by about 110 students in Middle/Upper Basic schools, whilst only 29 students share computers in that of Senior Secondary Schools. The least ratio per computer is in Tertiary/Higher Education which shows about 10 students per computer (see table 20).

**Table 20: Estimate of enrolled student to PC Ratio by area and educational category**

<b>Category of Educational institution</b>	<b>Urban Student/ PC Ratio</b>	<b>Rural Student/PC Ratio</b>	<b>The Gambia Student/PC Ratio</b>
Lower Basic School	363.9	146.8	286.3
Middle/Upper Basic	93.6	179.3	110.2
Senior Secondary	28.8	0.0	28.8
Vocational/Technical	11.3	6.0	11.2
Tertiary/Higher Education	9.6	23.0	9.6
<b>The Gambia</b>			<b>142.1</b>

*Source: Scan-ICT Baseline Survey 2006, The Gambia*

Our survey indicates that in the lower basic schools the ratio is very high in both the urban and the rural area, specifically in the urban. In the urban there are 364 students per computer while in the rural area there are about 147 students per computer. The attributes to this high number in the urban area, is because of the concentration of students in the urban area where almost all the schools are over crowded.

However, the ratio is found to be lesser in the Middle schools showing only 94 students per computer in the urban area and larger in the rural area with a ratio of 179 students per computer. The senior secondary and the Vocational or tertiary schools are mostly found in the urban and this has been demonstrated by the survey results.

In the urban area, for both the educational categories, there are about 29 students per computer in the senior secondary whilst there are only 11 students per computer in vocational schools. In comparison with the rural, for the same educational categories, there are zero ratios for senior secondary meaning there are no such schools. However, there are only 6 students per computer in the rural vocational schools.

**Table 21: Percent estimate of students enrolled in tertiary/higher and Vocational/ Technical education in an ICT field by gender**

Category of institution	Male	Female
Tertiary/Higher Education	59.7	17.8
Vocational/Technical	14.6	17.2

*Source: Scan-ICT Baseline Survey 2006, The Gambia*

Questions about women's technical education and their participation in ICT professions are important ones for national sustainable development. Our survey results in table 21 above shows that there are only 18 percent of the female students enrolled in tertiary education who are in an ICT dominated field whilst there are about 60 percent of the male students in the same category who are in an ICT dominated field. However, the results concern with Vocational/Technical schools show a higher participation of female in ICT field than the male students. There were 17 percent of female student in this school category who are in an ICT dominated field whilst only 15 percent of male student in the same school category are in an ICT dominated field.

The survey results in table 22 below showed that a smaller percentage, 2.4%, of teachers in Lower Basic Schools ICT qualified followed by proportion, 4.2% of teachers in the Middle/Upper Basic schools who are ICT qualified.

**Table 22: Percent estimate of the total teachers who are ICT –qualified by institutional category**

Category of institution	% of ICT qualified teachers
Lower Basic School	2.4
Middle/Upper Basic	4.2
Senior Secondary	15.8
Vocational/technical	38.5
Tertiary/higher Education	13.9
<b>Total</b>	<b>4.9</b>

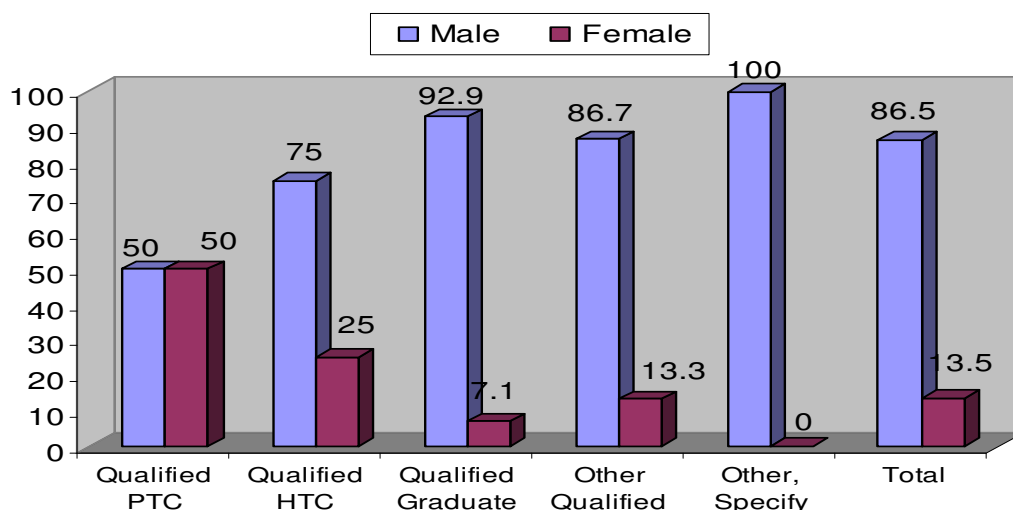
*Source: Scan-ICT Baseline Survey 2006, The Gambia*

**Table 23: Percentage of ICT –qualified teachers by category of Qualification and by gender**

Qualification	Male	Female	Total
Qualified PTC	50.0	50.0	100
Qualified HTC	75.0	25.0	100
Qualified Graduate	92.9	7.1	100
Other Qualified	86.7	13.3	100
Other, Specify	100.0	0.0	100
Total	86.5	13.5	100

Source: Scan-ICT Baseline Survey 2006, The Gambia

**Figure 2: ICT –qualified teachers by category of qualification and by gender**



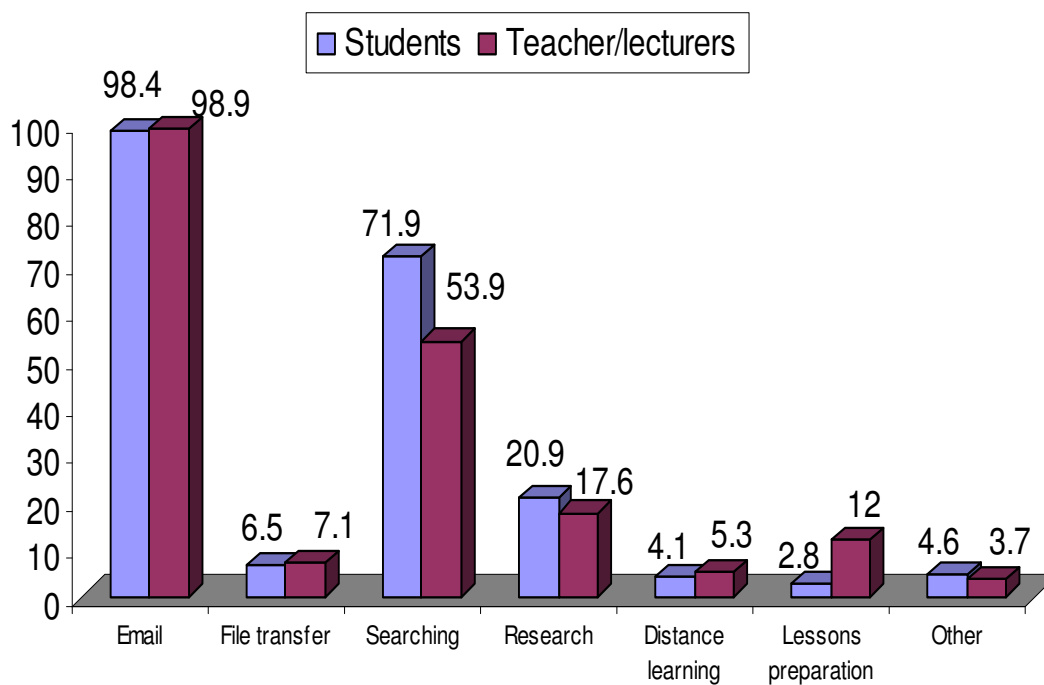
The use of Internet by both students and teachers is growing rapidly. Our survey in table 24 below indicates that 98 percent of student interviewed uses internet for Email whilst 99 percent of teachers uses internet for Email. Searching is also one of the purposes for using internet and is gaining popularity amongst both students and teachers. About 72 percent of students reported using it for research, whilst 54 percent of teachers use it for the same purpose. The least used is distance learning. In table 24 only 4 percent of students use it distance learning whilst 5 percent of teachers use it for this purpose.

**Table 24: Percentage distribution of students and teachers/lecturers by purpose of internet use**

Purpose of internet use	Students	Teacher/lecturers
Email	98.4	98.9
File transfer	6.5	7.1
Searching	71.9	53.9
Research	20.9	17.6
Distance learning	4.1	5.3
Lessons preparation	2.8	12.0
Other	4.6	3.7

Source: Scan-ICT Baseline Survey 2006, The Gambia

**Figure 3: Students and teachers/lecturers by purpose of internet use**



## **Summary of the findings**

The path towards information society is the main theme of this report. The status of the infrastructure of ICTs in the economy and on society can only be felt if their availability, accessibility and use in the country are adequately understood. The answer lies in understanding the impact of the growth of ICTs and also in understanding their potential as enablers for service provision in several areas including education, health care, commerce, industry and so on.

In relation to the above, the major findings of the pilot phase of the Scan ICT survey can be divided into three different categories:

- Human Resources Development
- Infrastructure and
- Policy

## **Human Resources Development**

Human capacity is a crucial factor for the development of any society. The study has demonstrated that the lack of people with ICT skills in The Gambia results mainly from the fact, that there are very few schools that have ICT incorporated in their curricula and the number of professional training institutes or basic computer training centres is also insignificant. The other important aspect to be considered is the need for formal introduction of ICT. This should include computer-based teaching and learning in education, starting from the tertiary education level and gradually extended to the lower levels. At the same time, the Government should invite the private sector to participate in research and development programs. Applied research should be encouraged, not only to address some of the country's most pressing problems, but also to build a critical mass towards the creation of a national ICT industry.

## **Infrastructure**

As referred in previous sections, the national ICT infrastructure is poorly developed. The telecommunications network is almost limited to the urban and semi-urban areas. In the rural

areas the citizens have to face not only the scarcity of access points to basic telecommunications services, but also the poor quality and the high costs of such services. In our opinion, the Government should combine the different initiatives and build partnerships with the private sector and international funding agencies, aimed at reducing the gap between rural and urban areas with regard to ICT infrastructure. Taking into consideration that the Gambia is financially a developing country, it will be very important to choose the right solutions both technically and economically. In that regard, small projects such as the telecentres and the internet cafés could certainly have a bigger impact for the development of the community than any mega-projects, because of the cost implications for the beneficiaries and sustainability of the processes.

## **Policy**

In relation to Policy issues, the Government has put a lot of efforts into creating an enabling environment for ICT development, by establishing an ICT Information Policy and the respective Implementation Strategy, as well as introducing reforms in the telecommunications sector. However, the dynamics of the national economy requires more substantial changes to satisfy the needs and expectations of the ICT market. In our opinion, the Government must undertake the necessary steps immediately, in order to accommodate the present and future ICT needs and related initiatives in the country, taking into account the Regional and International development trends in the ICT sector. Affordable and reliable sources of energy are a big hindrance to ICT development in the country and therefore, demands a high investment.