

CHAPTER IV

INPUT OUTPUT ANALYSIS

In our input-output analysis, since the maximum number of students or intake capacity has been already fixed as per NCTE rules, we take the number of students as fixed input and the number of teachers as the variable input since the number of teachers varies as the size of the institute changes. The number of passed-out students is taken as the output. Accordingly, we have to find out the most economical teachers-student ratio i.e. the point where the number of passed-out students is maximum with the minimum number of teachers. In short, the optimum point will be the one where the number of passed-out students is optimum with minimum number of teachers given the size of other factors of production such as the size of the building, number of non-teaching staff, other assets of the college etc. as fixed. The input-output analyses of the individual institutes are given below:

4.1 D. M. College of Teacher Education

In D. M. College of Teacher Education whose data is shown in the **Table- 4.1**, the student intake capacity of the college is fixed at 230 whereas the number of teachers was 19 during the period from 2003-04 to 2005-06, thereby maintaining a teacher-student ratio of 1:12. During these three years there has been a declining tendency in the passed out students when the teacher-student ratio is fixed at 1:12. In fact the optimum level of the institution could not be achieved at this level/

Table - 4. 1
Input-output analysis of DMCTE

Year	No. of Teacher	No. of Student	Passed out
2003-04	19	230	167 (72%)
2004-05	19	230	154 (66%)
2005-06	19	230	25 (10%)
2006-07	20	230	90 (39%)
2007-08	20	230	125 (54%)
2008-09	20	230	166 (72%)
2009-10	20	230	186 (80%)
Average percentage passed out			56%

Sources: College records

ratio. When the number of teachers increased from 19 to 20, now there has been an increasing tendency in the number of passed out from about 40% to 72% and further to 80% in 2008-09 and 2009-10 respectively. It means that with the existing infrastructure facility and at the existing teacher-student ratio of 1:11, the optimum level is not yet achieved. There is still scope for further expansion so that optimum level can be maintained at another point. For the time being the existing ratio of 1:11 seems to be ideal.

4.2 Kanan Devi Memorial College of Education

In the case of Kanan Devi Memorial College of Education which is shown in the **Table-4.2**, the trend of the passed out students in relation to the number of teachers is irregular and erratic. For example when the number of teachers was 10, the number of students passed out varied between 76 to 94; and when the number of teachers was 9, the number of passed out varied between 71 to 95. But when the number of teachers fell to 8, coincidentally the number of passed out students fell steeply to 54. Taking an average the ideal teacher-student ratio seems to be 1:10.

Table -4.2*Input-output analysis of KDMCE*

Year	No. of Teachers	No. of Students	Passed-out
2003-04	10	100	86
2004-05	10	100	76
2005-06	9	100	95
2006-07	10	100	94
2007-08	8	100	54
2008-09	9	100	71
2009-10	9	100	75
Average percentage passed out			78

*Sources: College records**[Since the no. of students is 100, the figures in the 4th column can be taken as p.c. figures.]*

4.3 R. K. Sanatombi Devi College of Education

Here, **Table-4.3** shows the input output analysis of the RKSD College of Education. As seen from the table the teacher-student ratio during 2003-04 to 2009-10 was 1:11 and during this period, the average percentage passed out worked out to be around 78% (ranging from 70% to 89%). When the number of teachers increases from 13 to 20 and

teacher-student ratio reduced to 1:10, there has been a declining trend both in absolute and relative terms instead of increase in the number of

Table -4.3

Input-output analysis of RKSDCE

Year	No. of Teacher	No. of Student	Passed out
2003-04	13	150	120 (80%)
2004-05	13	150	134 (89%)
2005-06	13	150	113 (75%)
2006-07	13	150	105 (70%)
2007-08	13	150	112 (74%)
2008-09	20	200	113 (56%)
2009-10	20	200	115 (57%)
Average percentage passed out			71%

Sources: College records

passed-out student. The average percentage passed out during 2008-09 and 2009-10 worked out to be 56%. Hence it can be concluded that the ideal ratio would be 1:11. In other words, the number of 20 teachers for a capacity of 200 students is not proportionate and not the optimum point.

4.4 T. I. Institute of Teacher Education and Training

In the case of Thokchom Ibotombi Institute of Teacher Education and Training, as shown in **Table- 4.4**, given the maximum number of

students enrolled as 100 in 2003-04 when the number of teachers was 08, the number of passed-out students was only 27. It means that the number of teachers and the number of students are not proportionate. When the number of teachers increased to 11 in 2004-05, the number of passed-out student increased to 54 which is the double the figures as it was in the

Table -4.4

Input-output analysis of TIITET

Year	No. of Teacher	No. of Student	Passed out
2003-04	8	100	27
2004-05	11	100	54
2005-06	12	100	47
2006-07	10	100	42
2007-08	10	100	54
2008-09	10	100	60
2009-10	10	100	54
Average percentage passed out			48

Sources: College records

previous year. When the number of teachers further increases to 12, the number of passed-out students falls to 47. It means that the additional increase in the number of teachers could not make any improvement in

the performance of the institution, rather the effect is negative. But when the number of teacher remains fixed at 10, the number of passed-out students can be maintained at 54 or even higher at 60 which was achieved in 2004-05 with 11 teachers. So in this case the optimum number of teachers with existing infrastructures may be taken as 10. In other words, the ideal teacher-student ratio seems to be 1:10.

4.5 Trinity Teacher Training College

So far as the **Trinity Teacher Training College** is concerned, the numbers of teachers and students remain fixed at 8 and 100 respectively throughout the course of the study as shown in **Table - 4.5**. The teacher-student ratio remains the same at 1:12. No consistent result can be drawn from the input output analysis of the table. Except in the year 2003-04 when the number of passed-out student was 80, in the subsequent years it varies between 57 and 66. During the same period, the average passed out is worked out to be 63%, which is comparatively low with other colleges under the analysis. If the college authority intends to raise the percentage passed out, then it can try by making a change in the teacher-student ratio. As it happened in the case of other colleges, if

Table -4.5*Input-output analysis of TTTC*

Year	No. of Teacher	No. of Student	Passed out
2003-04	8	100	80
2004-05	8	100	63
2005-06	8	100	62
2006-07	8	100	57
2007-08	8	100	62
2008-09	8	100	59
2009-10	8	100	66
Average percentage passed out			64

Sources: College records

the teacher-student ratio is increased to 1:10 which is considered to be an ideal one, the output may increase and may reach the optimum level.

4.6 Conclusion

From the above analysis, we can come to the conclusion that keeping the other factors such as cost of buildings, library and other infrastructure facilities of the institution fixed and also the intake capacity of the institution (number of student enrolled) being fully met, optimum

output for most of the institutions can be met when the teacher-student ratio is 1:10 except in the case of RKSDCE under which the optimum level is achieved at 1:11.

From the analysis of this particular institution it will not be exaggerated to conclude that increase in the number of teachers alone keeping other factors fixed does not lead to the increase in the performance of the institution. If the performance of the institution is to be improved, not only the increase in the number of teachers, the other factors such as laboratory facilities, classroom, library facilities and other basic needs of both the teachers and the students are to be increased simultaneously. In fact, the present system of fixing the intake capacity of the institution (number of students) at random without taking into account the appropriate size of other factors would lead to wastage of precious resources.

Amongst the five colleges under study TIITET is the most inefficient college since the average percentage passed-out during the period of study (2003-04 to 2009-10) is only 48% indicating wastage of 52% input. The best institution turns out to be KDMCE since the average passed out during the same period works out to be 78% indicating wastage of only 22%. Then it is followed by RKSDCE with an average passed out

of 71% having wastage of 29%. The average passed out for TTTC is worked out to be 64% thereby leaving 36% of the resources unutilized. DMCTE stands on the midst by having an average percentage of 56%. Taking the entire Teacher Education colleges together during the period of our analysis, the average passed-out works out to be 61.8%. Though the figure is above average, still there is a big scope for optimum utilization of the existing resources.