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Infrastructure and Learning Resources: Criterion IV of Self Study Report (NAAC)

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Abstract - Learning Resources are very important in the development of a conducive teaching-learning environment .Infrastructure, classrooms, laboratories, campus, auditoriums, sports facilities, library are as important as other learning resources offered by the HEI. Availability of well equipped latest technology and facilities on campus are necessary to maintain both quality and quantity. Proper management and use of these resources not only boost the morale of human resources but also ensure the attainment of goals. NAAC prefers to have adequate facilities for academic teaching learning environment in the campus and also ensures optimal use of these facilities in the interest of students. This paper focuses on the IV Criterion of SSR viz. Infrastructure and Learning resources which emphasizes on a well equipped library and use of IT besides other basic facilities necessary for excellence. It also discusses the regular augmentation and expansion of the same to meet future demands.

Keywords: *IV Criterion, Infrastructure and learning resources, IT, Campus*

I. Introduction

Infrastructure is the backbone and foundation that not only supports but also enhances the quantitative growth of an Institution. In computing, information technology infrastructure is composed of physical and virtual resources that support the flow, storage, processing and analysis of data. The general examples of learning resources in HEI are considered as – Textbooks, e-books, Journals, Software, monographs, Relevant reading materials, Videos and Recordings etc. As well as other sources of knowledge for teachers, learning resources can be used by teachers and teacher educators to co-construct knowledge as part of continuing professional development. For example, observation sheets, feedback forms and action plans can be used during classroom observation and mentoring. The general example of Infrastructure for HEI is classrooms, laboratories, auditorium, sports facilities, and library etc.¹

Infrastructure and Learning Resources is the fourth criteria for NAAC-SSR A&A process. It contains four key indicators and fifteen metrics which identifies the potential of HEI both qualitatively and quantitatively in providing Infrastructure and Learning Resources to its stakeholders. This paper is designed to provide detailed information about various aspects of learning resources. Government Dungar College which has been assessed and accredited by NAAC twice describes its facilities in the following way:

“The college has a land holding of 3.70 lakh sqm out of which approximately 25 thousand sqm is built area. The physical infrastructure comprises of 44 traditional class rooms, 04 lecture theatres, 21 Practical Laboratories, 08 Smart Classrooms with Interactive Boards, 24 Research Laboratories, Remote Sensing Lab, a Staffroom, separate rooms for each Department, a girls’ common room, an independent Women Cell, UGC Cell, Career Counseling Cell, Health Care Centre and a Student’s Union office. Learning resources of the college includes a central library with around 1,50,000 books which equip the learners needs. The library also has a separate reading room, rare books area, periodical section, journal racks, magazines related to general and specific subjects, encyclopedias, news paper stand etc. There are computers in all departments, internet connection for accessing e resources and a knowledge centre for under graduate and post graduate students. Post graduate students have an access

to both the Centre and Departmental computers. Other infrastructural facilities include LCD Projectors, OHP, Audio-visual aids, Intercom, 08 Smart Classrooms, well equipped state of art research laboratories etc. The college has always updated its IT resources to compete with growing needs and demand for the use of technology.”²This summary gives a fair idea that all these facilities and learning resources mentioned here are important for the College, its staff and its students to offer quality education.

II. Methodology

The adequacy and optimal use of the facilities available in an institution is essential to maintain the quality of academic and administrative units in the college. It is also significant in knowing how each unit viz. of the institution - students, teachers and staff - benefit from these facilities. And therefore augmentation and expansion of facilities to meet future development is one of the major concerns. Optimal mobilization and utilization of funds is very necessary for governance. There can be many sources of funds and grants received by HEI. For affiliating colleges it can be the state Govt., UGC, RUSA, Alumni, stakeholders, developmental committee, fees, and also MP, MLA funds. It is the responsibility of HEI to identify areas that need immediate financial attention for maintenance and development. After identification the optimal allocation and mobilization must be ensured for academic, physical and other developments judiciously³. The focus of Criterion IV is captured in the four Key Indicators i.e. Physical Facilities, Library as a Learning Resource, IT Infrastructure and Maintenance of Campus Infrastructure. The weightage of these key indicators are presented in Table 1:

Table 1 Key Indicator of Criteria 4

S.N	Key Indicators (KIs)	Universities	Autonomous Colleges	Affiliated Constituent Colleges
4.1	Physical Facilities	30	30	30
4.2	Library as a Learning Resource	20	20	20
4.3	IT Infrastructure	30	30	30
4.4	Maintenance of Campus Infrastructure	20	20	20
IV	Total	100	100	100

Metrics and Data Templates

Metrics and Data templates are one of the major part of filling SSR, AQAR etc. The HEI must note that the data filled in the template should not only be correct but these should also be in the identical format as it is required. Failing in so creates a definite DVV process which may lead to rejection or revision of AQAR or SSR whatever is the case. The A&A process of NAAC is a dynamic process which keeps on changing in these formats so the HEI should check the NAAC website before filling it. The Data Templates required for Criterion IV are as follows–

4.1.1 The institution has adequate facilities for teaching - learning. viz., classrooms, laboratories, computing equipment, etc.

4.1.2 The institution has adequate facilities for cultural activities, yoga, games (indoor, outdoor) and sports. (gymnasium, yoga centre, auditorium, etc.)

4.1.3 Availability of general campus facilities and overall ambience

4.1.4 Average percentage of expenditure excluding salary for infrastructure augmentation

4.2.1 Library is automated using Integrated Library Management System (ILMS) and has digitization facility

4.2.2 Institution has subscription for e-Library resources

4.2.3 Average annual expenditure for purchase of books/ e-books and subscription to journals/e-journals during the last five years

4.2.4 Percentage per day usage of library by teachers and students (foot falls and login data for online access)

4.3.1 Percentage of classrooms and seminar halls with ICT - enabled facilities such as LCD, smart board, Wi-Fi/LAN, audio video recording facilities

4.3.2 Institution has an IT policy, makes appropriate budgetary provision and updates its IT facilities including Wi-Fi facility

4.3.3 Student - Computer ratio (Data for the latest completed academic year)

4.3.4 Available bandwidth of internet connection in the Institution (Leased line)

4.3.5 Institution has the following Facilities for e-content development

4.4.1 Average percentage expenditure incurred on maintenance of physical facilities and academic support facilities excluding salary component during the last five years

4.4.2 There are established systems and procedures for maintaining and utilizing physical, academic and support facilities - laboratory, library, sports complex, computers, classrooms etc.

III. Discussion

In Criterion IV there are total four key indicators and 15 metrics. Four metrics each in key indicator 1 and 2, five in 3 and 2 metrics are there in fourth key indicator.

Physical Facilities

Adequate infrastructure facilities are keys for effective and efficient conduct of the educational pursuits and activities. The growth of infrastructure thus has to keep pace with the academic developments in the institution. These facilities on the campus are developed to contribute to the effective ambience for curricular, extra- curricular and administrative activities. There is an annual provision for expenditure in the budget for maintenance and replenishment of physical facilities . In this criteria first three metrics are qualitative while fourth one is quantitative metrics, where Data Requirement for last five years are as - Budget allocated for infrastructure augmentation, Total expenditure for infrastructure augmentation, Audited statement of accounts and Total expenditure excluding Salary. All this calculated as per following Formula:

$$\text{Percentage per year} = \frac{\text{Expenditure for infrastructure augmentation excluding salary}}{\text{Total expenditure excluding salary}} \times 100$$

$$\text{Average percentage} = \frac{\sum \text{Percentage per year}}{5}$$

Library as a Learning Resource

The library holdings in terms of books, journals and other learning materials and technology-aided learning mechanisms enable students to acquire information, knowledge and skills required for their study programmes. A recent development in the field due to availability of digital means, the functioning of the library has undergone a drastic change. Automation of library using the ILMS, use of e-journals and books, providing remote access to e-resources in the library have become a matter of necessity⁴. Providing for these and such other developments as well as utilizing them well are important indicators of the quality of an academic institution. In this first metric is qualitative while other three are quantitative. For e-library Library a regular subscription for the following is required - e-journals, e-books, e-Shodh Sindhu, Shodh Ganga and other databases including the memberships. Marking is based on the basis of selected option. Annual expenditure for purchase of books and journals

year wise during the last five years on the basis of data provided on - Expenditure on the purchase of books, journals with respect to year as per Formula:

$$\frac{1}{5} \times \sum_{i=1}^5 \text{Expd}_i$$

Where: Expd_i = Expenditure in rupees on purchase of books and journals in i^{th} year.

Number of teachers and students using library per day over last one year Is calculated on the basis of data provided and uploaded as - Upload last page of accession register details, per day login/online users of library, Number of users using library through e-access and Number of physical users accessing library as per following Formula:

$$\frac{\text{Number of teachers and students using library per day}}{\text{Total number of teachers and students}} \times 100$$

IT Infrastructure

These key indicators contain maximum number of metrics which is five out of which one is qualitative and four are quantitative. The institution adopts policies and strategies for adequate technology deployment and maintenance. The ICT facilities and other learning resources are adequately available in the institution for academic and administrative purposes. The staff and students have access to technology and information retrieval on current and relevant issues. The institution deploys and employs ICTs for a range of activities. The Number of classrooms and seminar halls with ICT facilities are calculated on the basis of following data Requirements: Number of classrooms with LCD facilities, Number of classrooms with Wi-Fi/LAN facilities and Number of seminar halls with ICT facilities as per following Formula⁵:

$$\frac{\text{Number of classrooms and seminar halls with ICT facilities}}{\text{Total number of classrooms/seminar halls in the institution}}$$

The computer student's ration and the available bandwidth of internet connection in the HEI are judged on the basis of numbers provided in the data template. The development of e-contents is very important but it is based on the following facilities in the campus - Media centre, Audio visual centre, Lecture Capturing System (LCS) and Mixing equipments and software for editing.

Maintenance of Campus Infrastructure

Having adequate infrastructure is not enough for effective institutional functioning, but regular maintenance and periodic replenishment of infrastructure is essential. It is necessary that the institution has sufficient resources allocated for regular upkeep of the infrastructure and there are effective mechanisms for the upkeep of the infrastructure facilities; and promotes the optimum use of the same. In this key indicator one metric is qualitative and other is quantitative. Expenditure incurred on maintenance of physical facilities and academic support facilities excluding salary component year wise during the last five years is required in terms of following data - Non salary expenditure incurred and Expenditure incurred on maintenance of campus infrastructure and calculated on the basis of Formula⁶:

$$\text{Percentage per year} = \frac{\text{Expenditure on maintenance of physical and academic support facilities excluding salary component}}{\text{Total expenditure excluding salary component}} \times 100$$

$$\text{Average percentage} = \frac{\sum \text{Percentage per year}}{5}$$

In addition to this, policy details of systems and procedures for maintaining and utilizing physical, academic and support facilities on the website in a range of 500-1000 word is required.

IV. Recommendations

- Develop an interesting dynamic website of the institute which should be run by the most intellectual faculty of the HEI selected from different streams.

- Accumulate a collection of high-interest reading materials, e-books, e-journals in each department and make it mandatory to use it once in a week for all stakeholders.
- Tap into resources at local museums, parks, and cultural centers. Create and display files for interesting articles.
- Bookmark useful and interesting sites on the Internet in departmental library, central library and personal libraries of each faculty. Each student and faculty should be asked to prepare his / her own library.
- Design and Develop e-contents, e-magazines and literary magazines.
- Develop resources using augmented and virtual reality

V. Conclusion

In this paper the role of Infrastructure and Learning Resources in terms of NAAC-SSR A&A process has been discussed. Important recommendations to enhance the grading have also been described. Infrastructure and Learning Resources are significant to create a congenial learning environment and so when HEIs are assessed on this, they come to know of areas that need improvisation and augmentation. This is also very essential to maintain pace with growing technological advancements and resources.

VI. References

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