

# A New Governance Structure for I.I.T. Bombay

(September 2008)

## 1 Preamble

At the Institute Faculty Meeting (IFM) held on 7th February 2007, Professor J. Vasi suggested a tentative modification of the present governance structure for greater efficiency and responsiveness. By and large this was well received. However, it was felt that the question of governance at I.I.T. Bombay should be examined by a faculty committee and its findings discussed in another faculty meeting before being presented to the Board of Governors (BOG) for approval. The Director appointed the following committee for the aforementioned purpose.

Prof K. Jain

Prof K.C. Khilar (convener)

Prof K. Moudgalya

Prof H. Narayanan

Prof S. Patankar

Prof K. Ramamritham

Prof V. D. Sharma

Prof S. Suryanarayanan

Professors S.P.Sukhatme, K.P.Madhavan, and A.P.Kudchadker were special invitees to all the meetings. Professor K.Sudhakar has, by invitation, participated in all discussions and interviews held in 2008.

The committee met several times, elicited views from the faculty at large and from office holders past and present, and prepared a report which it placed before the faculty in November 2007 and invited feedback online. There was a meeting of the faculty of the Institute on January 30, 2008 where some additional feedback was received. Further, during the next four months, a number of interviews of office holders and others was conducted by members of the committee. The suggestions and recommendations of the November 2007 report have been modified in the light of all these additional inputs. The committee is happy to submit the following report, born of its deliberations and consultations.

## 2 Introduction

Organizations usually come into being for broadly defined goals. Precise definitions of these goals will vary according to the perception and interpretation of the individual. Organizational structures should be capable of accommodating a wide variety of such precise definitions, which a layman would regard as consistent with the broad goals. A well defined structure for an organization should be capable of handling most of the relevant activities speedily and effortlessly. A small proportion of relevant activities would not fit into a rigid mould but would require a great deal of thinking by the persons manning the organization. In terms of human effort in analysis and decision making, these activities would be more substantial than the bulk which the structure handles routinely. However, to a large extent, the excellence of the organization would be dependent upon the manner in which it carries out these non standard activities. This is particularly true of academic organizations which have to achieve excellence in fundamental human endeavours like education and research.

We encounter conflicting requirements that the governance structure has to fulfill. The users of the structure must feel that the system responds perceptively and quickly to their wide ranging and often ill defined needs. Rigid automated structures respond speediest. But perceptive response requires active human intervention. This would necessarily reduce speed of response. Further the environment in which the organization lives, changes with time. Rigid unchanging structures gradually become ineffective and irrelevant. Structures should therefore have adaptive capability and, ideally speaking, must change slowly and continuously on the one hand and more substantially through the review process once in a while. Perhaps the best way to achieve this is to recognize that organizations that are efficient and perceptive must have a formal and an informal component. In a sense every conscientious individual manning a position in the structure, who is aware of the overall purpose of the structure and is willing to act towards this purpose, even if the formal duties are not clear in a particular situation, belongs to the informal component of the structure. In addition, a substructure within the informal component could arise due to needs perceived by the members of the community served by the organization. It could survive for a while because of the energy and enthusiasm of the few who perceive its importance, and also because it could have been generally seen as effective. If this situation continued for a substantial length of time, it could become part of the formal

structure and become more rigid and efficient. Meanwhile new needs could be perceived and new informal structures could arise. This is the natural ‘biological’ way for an organization grow and become increasingly effective. With passage of time, however, relevant bodies, which arose in this manner or otherwise within organizations, could decrease in importance. Every once in a while, therefore, the formal structure should be reviewed and drastic changes could be made in it, if found needed.

I.I.T. Bombay is an institution of learning. Its broad goals are education of the students within campus and those more distantly located in the country, and research that is immediately relevant to our country and also that which is perceived as important elsewhere in the world. In regard to both of these goals, we need to maintain quality while increasing quantity. In the case of teaching, students must get something equivalent to individual attention and get their individual difficulties cleared. At the same time, using technology, we should reach out to a larger number both within the institute and outside. In the long term, we must think in terms of whole new schools such as medicine and perhaps law, and also strengthen existing schools and departments. In research, we need to maintain quality while catering to, say, a fivefold increase in number of students. Research automatically implies things such as improved infrastructure, trained support staff and improved interaction with the world outside.

This report is largely about the formal structures which, to the members of the present Governance committee and to the faculty at large, appear most suited to the achievement of the aforementioned broad goals. We delineate the manner in which the basic units viz. the departments, the various service units, and the various windows to the outside world, interact and are coordinated. The success of this structure of interaction should be measured by how efficiently routine matters can be handled and, when human beings have to intervene in an essential way, if there is efficient load sharing and minimal overlap of jurisdiction.

While we recognize that processes are critical, we do not address them at all in the present report. We note that there is a separate ‘Administrative Processes Review Committee’ which is considering the processes issue in detail. We merely state that the kind of processes that are best suited for the current structure would also work well for the proposed one. While basic processes should be efficient, the system must have inbuilt checks and balances at the detailed as well as at the global level. For instance, it is an urgent necessity to speed up construction activities in the Institute. In

a sense, an environmental advisory body would be a check on how this activity is carried out. So while speeding up the activity, it is necessary to have better coordination with the latter body by consulting it very early at the planning stage. We understand that this is being proposed in a reorganization of the structure under the control of the Dean (Infrastructural Planning and Support) (presently called Dean (Planning)).

We have not addressed the training and enthusing of staff in any great detail in this report. An excellent organizational structure manned by persons who have a poor feel of the overall goals would function ineffectively. The setting up of an enlightened training programme for all support staff is an urgent need. This should aim at improvement of skill and development of personality with immediate appreciation of individual initiative through innovative reward mechanisms. In this scheme, both faculty and students could play an important role as instructors. To give an instance, the flow of data, its storage and its processing leading to actions, is best altered for greater effectiveness by the individuals performing the microtasks. But they need to be guided to acquire a global vision of the organization and to be instructed in modern techniques from operations research (OR) and computer science. This is an area where both faculty and students can contribute substantially. It must be remarked that we have, in the Institute, an excellent group of enthusiastic young staff members who came into the system by clearing examinations that were carefully designed keeping in mind the needs of the Institute. The training scheme should of course be available to all but its effects might be visible immediately because there are such young people in the system.

We recognize the importance of informal structures in our plan, although we do not go into details.

For instance, the departments (which is a generic term for departments, centres and schools as defined at I.I.T. Bombay) offer great scope for informal structures which improve the overall well being of the members (staff, students and faculty) and the synergy between them. To give one on one attention to students, to handle coping problems of students particularly during the freshman year etc., the best people are senior students who have skill and compassion. A student mentorship programme with broad supervision by sympathetic faculty would be the necessary informal structure which could gradually become more formal in each department or hostel with a structure suited to the local conditions.

New members of the faculty or staff have to be treated with consideration

for the difficulties a new entrant, to any social setup, faces. This is best done by senior staff or faculty acting informally without excessive control from the upper region of the governance structure.

At the campus level, informal structures, eg. a creche run by volunteers for the well being of the inmates, add value to the Institute and attract excellent young people to it.

By and large, informal structures function best when they are born naturally of the desires of the originators rather than through the will of a person remote from the relevant issues that the structures are expected to address. No suggestions are made in this report about which informal structures should be there. We emphasize however, that for true excellence, such structures should be encouraged and should thrive.

The outline of the report is as follows.

Section 3 traces the evolution of the present structure.

Section 4 summarizes the views of the faculty at large and of office holders on the problems of the present governance structure.

Section 5 contains a proposal for a new governance structure.

A schematic of the proposed governance structure is available in Figure 1.

Section 6 contains some major suggestions which, if adopted,

- should permit the delegation of some of the duties which presently occupy the great bulk of the Director's time and free him/her for contemplation of, and action on, long range plans and issues
- should empower the departments to better realize their potential, and
- should allow us to obtain an objective picture of the performance of the governance structure and its functionaries periodically.

Section 7 addresses the question of the desirability of faculty participation in administration and how the routine component of it can be minimized without loss of value.

Section 8 makes concluding remarks on the issues at hand.

### **3 History of the present structure**

The present governance structure has evolved from its beginnings based on needs perceived by the academic community, and in particular, the Directors

of the Institute. This was inevitable since a clear visualization of eventualities was difficult in the beginning. The Institutes of Technology Act of 1961 and the Statutes of the Institute provide a skeleton of the governance structure for the Institute. Essentially the picture is that the Board of Governors (BOG), through the Director, taking the help of various officials whose positions were legitimized in the statutes, conducts all the administrative and academic responsibilities of the Institute. The positions of the Deputy Director, Registrar and Heads of departments were stipulated in the statutes. Thus in the early 70s we had two Deputy Directors, one for academic affairs and one for planning (particularly construction and maintenance), the Registrar (in charge of the administrative staff) and the Heads of departments, all assisting the Director. The position of Deputy Director(Planning) was soon replaced by that of Dean(Planning).

In 1972, there was a revision of the evaluation process of the UG/PG curricula. It was then felt that for coordinating all academic affairs, the position of Dean(Academic) would be useful. It was also recognized that the Institute must interact with industry and the government to fulfill its societal roles by carrying out sponsored and consultancy projects. Such activities could be coordinated through the position of Dean of Research. Thus two functional Deanships were instituted by the BOG - Dean of Academic Programmes and Dean of Research, with the latter becoming the present Dean of Research and Development.

The positions of the Dean(Planning) and Dean(Student Affairs) were instituted in 1977 and 1978 respectively. The former now became responsible for the planning of the construction and maintenance of physical facilities and the planning of the utilization of funds which accrue from the government under the head 'plan funds'. The latter was to look after all aspects of student problems and extra-curricular activities. In 1995, primarily because of the enthusiasm shown by our alumni to contribute towards the betterment of the Institute, the position of Dean(Resource Development) was instituted for the planning and execution of all matters relating to the development of resources for the Institute. This latter became the present Dean(Resource Management).

Some positions of 'professors in charge', such as for Training and Placement, were created around this time. The last of these were the positions of Professors in charge of Alumni Affairs and Faculty (2002) and these became Dean(Alumni and International Relations) and Dean(Faculty) respectively, in 2003.

The overall governance structure is essentially that most of the important decisions rest with the Director. Various functionaries such as the Deputy Director, Deans, Heads of departments and the Registrar act as his support team. For the most part, the place where documents about important decisions terminate, before they move backward in the ‘action to be taken’ mode, is the Director’s office.

## **4 Views on the present governance structure**

The general perception of the present governance structure has to be reliably ascertained in order to determine its strengths and deficiencies, and to decide directions in which changes should occur. For this purpose, the committee initially sought views through two modes. It conducted a survey of faculty members (SoG Faculty Survey) to get a feel for the status of governance at I.I.T. Bombay. It also conducted a series of interviews with persons who were intimately connected with governance either because they were past or present office holders or because they had professional managerial expertise. In November 2007, the first report of the committee on governance (titled ‘A New Governance Structure for I.I.T. Bombay’) was placed online before the faculty. Some feedback was received informally as well as online. There was also a meeting of the faculty on January 30, 2008, where the report was discussed. This again provided valuable criticisms. It was decided to further modify the proposed structure after interviewing all the functionaries keeping operational issues in mind. Such interviews took place during February to June 2008. There was also a feeling expressed during the January meeting that processes were equally important if the new structure is to be effective. The administration, immediately thereafter, constituted an Administrative Processes Review Committee to study and improve existing processes. We believe this committee has made substantial progress and that its findings are expected soon. The structural modifications proposed in this report are such that processes suitable for the current structure would also be suitable for the proposed one.

### **4.1 Status of governance survey: summary**

The following attributes were used in the Status of governance (SoG) faculty survey to evaluate the performance of the governance structure at I.I.T.

Bombay.

- Processes (whether in place)
- Efficiency (in execution of established processes)
- Effective communication (whether processes, rights, duties, expectations, decisions are effectively communicated)
- Transparency (regarding decision making procedures)
- Responsiveness (to non-routine requests)
- Scalability (whether the governance structure is set up to handle more students, employees)
- Monitoring (whether feedback is taken regularly and seriously)

A total of 127 (out of 415 current faculty) responded. Of these 18.11 percent had spent excess of 20 years at I.I.T. Bombay, 26.77 percent had spent between 10 and 20 years, 18.9 percent had spent between 5 and 10 years and 36.22 percent had spent less than 5 years.

Most respondents feel that the existing working environment provides them with enough time to pursue their academic interests as well as to demonstrate academic leadership. However, they feel that the administrative activity they have been involved with has been a hindrance to their academic agenda. Further, junior faculty members feel that the administration is not proactive in taking steps towards improving their working environments.

A significant percentage of respondents believe that the environment is open enough to challenge established positions and processes. But a large percentage of respondents believe that feedback is not taken often enough.

They feel that procedures related to day to day functioning are in place. But, senior faculty members feel that communication on procedures should improve. While it is felt that various service units process routine requests efficiently, there is a general feeling that non routine requests are not processed satisfactorily.

A significant percentage of respondents believe that the administration does not clearly specify roles to be played by various functional units. While the administration is perceived to communicate decisions on requests unambiguously, it is felt that the decision making process is not transparent,



indeed that the policies of governing units are not applied uniformly and consistently.

Most faculty members feel that the present structure is not scalable and an overwhelming 75% of respondents believe that there is a need to change the governance structure to allow the Institute to grow and flourish.

More details about the questionnaire and the analysis of responses to individual questions may be found in the previous report of the committee (titled ‘A New Governance Structure for I.I.T. Bombay’ and submitted in November 2007).

## 4.2 Interviews: Summary

The focus of the interviews was on governance structure, processes and people. The following major points emerged from these interviews:

- The Deputy Director could take on more defined responsibilities.
- Some Deanships could be combined (RM +AIR or DD +AIR).
- Some positions need to be created to handle the future requirements for IT based services and research (Chief Information Officer) and perhaps even Dean (IT).
- Heads of departments should provide leadership and be empowered to take actions that would allow academics to thrive.
- There is a strong need to improve processes, as any changes in governance structure would be slowed down without efficient processes in place. (As mentioned before, there is now an ‘Administrative Processes Review Committee’ deliberating on processes).
- Faculty should be empowered to take decisions, have fair performance reviews and be rewarded. Delegation of responsibility from the top down may help in this aspect.
- Staff need incentives, training and empowerment for them to make a greater contribution to the running of I.I.T. Bombay.

More details of these interviews may be found in the previous report of the committee (titled ‘A New Governance Structure for I.I.T. Bombay’ and submitted in November 2007).

## 5 Proposed governance structure

In order to evolve into a great university, I.I.T. Bombay has to be prepared to make substantial changes in its structure and mode of functioning. This can sometimes be done within existing rules but, in general, it may need changes in statutes. Such well considered changes should not be resisted but should rather be regarded as part of the natural process of evolution for the Institute. Indeed, as early as 1986, the Nayudamma committee reviewing all IITs stressed that “The acceptance of government rules in toto is the cause of much of the rigidity felt by the academics. The IITs could have, over the years, framed their own rules but they did not do so. Likewise many of the Statutes need revision in the light of experience.”

In this section, a governance structure is proposed based essentially on a modified version of the current centralized structure. We believe this structure would be truly effective provided some major recommendations, that we include in a subsequent section, are also implemented. Changes are proposed here to the current governance structure based on two primary goals:

- to attempt to solve the existing major problems as discussed in the previous section on views elicited through the survey and interviews, and
- to facilitate the transformation to a more proactive governance structure suited for a leading research university with a large education base, which I.I.T. Bombay aspires to become.

### 5.1 Present governance related problems

The major governance related problems that were identified are as follows:

Large expansions have taken place in R&D, in external relations, and in academic programmes. Therefore, the spectrum of work of the Director has broadened and the magnitude of the duties, both routine and decision making, has increased significantly compared to two decades back. Under the present structure, the Director is the only person who has the power to act, based on an overall picture of the Institute’s position in its evolution in time and in its present environment, national and global. This picture has to be constantly refined using interactions within and outside the Institute. For the well being of the Institute and indeed, its progress on its road to excellence, this exercise has to be continuous and intense. Presently, however, he/she

is overburdened with day to day tasks which, though important, can easily be performed by senior faculty. Apart from the efficiency related benefits of decentralization, this freeing of the Director from day to day tasks is one of the main aims of the changes proposed.

The leadership focus of the Deputy Director has blurred due to the institution of the offices of many functional Deans. By and large, our Heads of departments/centres/schools concentrate on the day to day running of their units but provide little of the academic leadership, essential to the fulfillment of our vision. Faculty members participate excessively in administration, even in cases where the concerned tasks are more suited to specialized professional governance.

In addition to the elimination of these major weaknesses of the current governance structure, we believe there is a need to make the upper governance positions more proactive and capable of providing leadership. The upper positions (Deputy Directors) should have this as the main agenda and should delegate powers for completion of their day to day jobs. These positions are best occupied by senior faculty of the Institute with many years of experience in administrative matters. The expertise and experience carried by such persons can then be effectively utilized.

## 5.2 Suggestions for modification of structure

The suggested structure has two functional Deputy Directors to significantly lessen the work load, both routine and decision making, of the Director. Thus most papers need not move up to the office of the Director. *It must be emphasized here that some of the day-to-day powers to govern and carry out administration should be vested in the Deputy Directors, if necessary through appropriate resolutions of the BOG. Statutorily these powers still rest with the Director. The Director still has all the executive powers. It is only suggested that some of these powers be delegated to the Deputy Directors.* In the event of this not happening, we must caution that in the modified structure, the work load of the Director would in fact increase as he/she has to direct two immediate peers. On the other hand, with the delegation of power to Deputy Directors to carry out administration, to make financial sanctions for expenditures and to make other decisions in their areas of purview, we believe the current work load on the Director may reduce significantly, freeing him/her for contemplation of important long range plans for the Institute and for its interface with the external world.

In the proposed structure, the Director's role would shift largely to long range planning, deciding on which new initiatives are needed and to high level external interactions with government, universities, alumni, corporates and the media. In this he/she would be assisted by a Chief Strategist who is also intended to be at a Deputy Director level position but who is intended to help with planning and not with execution.

In order to be effective, we feel that each Deputy Director should have some clearly assigned area where he/she can provide proactive leadership. We shall suggest one major area for each Deputy Director in a later paragraph.

We have stressed earlier the general perception among faculty that they are participating excessively in administration, indeed even in areas where professional expertise is readily available either through outsourcing or by recruiting such manpower. Such participation comprises certain committee memberships, chairmanships etc. and some senior administrative positions at the Dean level. Therefore, one needs to improve the situation on both fronts: committee as well as administration. The committee part is dealt with briefly in a separate section. As far as the administrative positions are concerned, although faculty continue to hold positions as before, we have provided the support of competent professionals. The day to day burden of these positions should therefore reduce. One new Associate Dean position with Dean(Academic Programmes) has been created in view of the increased responsibility that office has to bear, keeping in mind recent developments. One more such position might be needed in the near future. Further, certain positions have been renamed as Associate Deans taking into account their importance. Also, as additional responsibilities arise, we may need more Associate Dean positions in the years to come. It is suggested that an additional Associate Dean be sanctioned for Dean (R&D), to be filled when need arises. The detailed duties of these new Associate Deans are best formulated by the concerned Deans.

Excluding the Director, Heads and Registrar, we have, in the modified structure, 31 positions. Out of the 31 positions, 3 are at the DD level, 7 at the Dean level, 8 at the Associate Dean level, 2 function as Heads of centres, 5 as Professors in charge, and 6 positions are to be filled by professional experts. Except for the Chief Financial Officer (CFO), all the other professionals appear to be available in the system under different but equivalent titles.

### 5.3 Deputy Directors

Our aim in introducing the positions of Deputy Directors is to relieve the Director of the burden of day to day administration and to carry it out more speedily. However, we need to divide the tasks in a manner which permits their being done by two persons without having to check with each other frequently. It is also preferable that the tasks assigned to one person have strong common characteristics which might enthruse a person in that position. The rule we have used for the division is that of ‘inward focus versus external interaction’. Inward focus translates to administration of Institute affairs of the academic and infrastructural kind. The Institute has external interactions for purposes which are academic, social and financial. But the resulting flow of funds inwards enables all Institute activities and requires proper budgeting and investment. The two positions we suggest are Deputy Director (Academic and Infrastructural Affairs) (DD(AIA)) and Deputy Director (Finance and External Affairs) (DD(FEA)). As is to be expected, existing tasks cannot always be assigned one or the other new characteristic unambiguously. In such cases we link them to both but assign primary responsibility to one using operational reasons.

Some preliminary comments about the terminology are in order. The organizational structure is for the most part a tree with each non root node in the tree ‘reporting’ to (i.e. coming under the administrative jurisdiction of) a single node above. This should be interpreted as being under the control of the superior and of making him/her aware of all actions carried out. In practice the node below is expected to have considerable autonomy. In addition a node might ‘interact closely’ with another node above. In this case the superior node is not in control of the inferior one but is broadly aware of all actions carried out by the latter. Further the needs of the superior node are also made known to the inferior node. There are a few positions whose interactions are naturally captured by this technique. These include the Registrar, Dean(Infrastructure Planning & Support) (the new nomenclature for Dean (Planning)), Dean(R&D), the Institute Student Mentor etc. (Please see Figure 1).

We shall next discuss in some detail the nature of work involved at the two Deputy Director positions.

*Deputy Director (Academic and Infrastructural affairs) (DD(AIA))*: The occupant would have powers delegated by the Board of Governors (BOG) to take many decisions related to academic, faculty and student related mat-

ters. In infrastructural matters he/she would act in coordination with the Deputy Director (Finance and External Affairs). The administrative powers in turn would be delegated to the respective Deans or Heads, who would essentially run the administration in their respective domains. He/she would interact closely with the Registrar whenever administrative matters require it. He/she would function as the vice chairman of the senate and powers may be delegated to him/her, in the absence of the Director, to carry out the role of the Chairman (Senate) as well as of the chairman of the selection committee for induction of new faculty and also for promotion.

*Deputy Director (Finance and External Affairs) (DD(FEA))*: The occupant would have the powers delegated by the BOG to look after most of the matters which involve interactions with the world outside and also all matters involving finance generation, budgeting and investment. The occupant would have powers delegated by the BOG to look after many of the day to day administrative duties of the Director along with the Registrar. In addition, he/she would take the needed initiatives to put in place the best administrative practices and processes. He/she would handle most matters connected with the government. For the most important interactions it is expected that the Director would take the lead.

We have decided which node at the next level in the organizational tree reports to which DD using the following guidelines:

- essentially academic positions come under DD(AIA) while those related to external affairs come under DD(FEA).
- if the position has to do with attracting or managing funds coming from government or alumni and corporate bodies in the form of donations, it falls under DD(FEA).
- where the revenue is earned by the body for the Institute, the character of the position decides under which DD it falls. For instance, the courses under the Centre for Distance Engineering Education Programme (CDEEP) are usually courses in the regular curriculum of the programmes in the Institute. Also the target audience is usually students of other academic institutions. So CDEEP falls under DD(AIA). On the other hand the node Continuing Education Programme/Quality Improvement Programme (CEP/QIP) is involved largely with corporate bodies. The CEP courses are often tailor made for their needs. (The QIP part, though essentially academic, is clearly structured and

the management of the tasks involved is now standardized.) So CEP/QIP falls under DD(FEA). Dean(R&D) position is felt, by past and present incumbents, to be deeply involved with enabling new research ventures and raising research activity level in the Institute. The academic content of the position appears to dominate over the external relations content. This position has therefore been put under DD(AIA).

- Infrastructural positions interact with both DDs but if need for funding (which really comes from external sources) is frequent, the position falls under DD(FEA), since the papers often have to reach there. Thus Dean(Infrastructure Planning & Support) interacts closely with DD(AIA) for planning infrastructure but reports to DD(FEA) since the need for sanctioning of funds is likely to be frequent. On the other hand the Head(CC) is manning a part of the infrastructure but in this case the need for sanctioning of funds is not likely to be frequent although the amounts involved could be large. So this position falls under DD(AIA).

The following would report to the DD(AIA):

Deans of Academic Programmes, Student Affairs, Research and Development, Faculty. The Dean(Infrastructure Planning & Support) (formerly Dean(Planning)), who would report to the DD(FEA), would also interact closely with DD(AIA). The Dean(R&D) would also interact closely with the DD(FEA). The Heads of CDEEP and CC would report to DD(AIA).

The following would report to the DD(FEA):

Deans of International Relations, Alumni and Corporate Relations (who does the alumni and corporate related tasks of the present Dean(RM)), Infrastructure Planning & Support. The Dean(Infrastructure Planning & Support) would also interact closely with DD(AIA). The Dean(R&D), who would report to the DD(AIA), would also interact closely with the DD(FEA). The Professors in charge of CEP/QIP, Society for Innovation and Enterprise (SINE) and Training and Placement (T&P) would report to DD(FEA).

Details of duties, of papers which may move up to the Director and which should stop at this level are given in subsection 5.9.

## 5.4 Chief Strategist

The Institute is a busy place with an overwhelming variety of activities going on all the time. For functionaries it is usually difficult even to just manage the

day to day affairs. Inevitably most function constantly in the ‘fire fighting’ mode. Therefore for major innovations, in the choice of activities or in the manner they are performed, it is necessary that someone steps back and contemplates, worries about directions, predicts and recognizes opportunities and prescribes long range actions.

The position of Chief Strategist has only feedback reception, data evaluation and planning related activities and no executive duties. He/she would act as Convener, Institute Strategic Planning Committee (ISPC) and also Member (Secretary) of the Institute Advisory Council. The ISPC would be composed of specialists from different fields of enquiry. The role of the committee is to evaluate qualitatively, based on among other things quantitative data, the health of different activities in the Institute in research and education, and to suggest new directions of activity.

The Chief Strategist would report to the Director. The nature of this post precludes a detailed description of the duties of the incumbent. It is best therefore that a person of experience and vision is the first occupant of the post so as to set a trend and to act as a precedent. This post is intended to be at the Deputy Director level. It is necessary that there is good office support for this position.

## **5.5 Deans**

It is desirable that the positions of Deans be largely autonomous for efficient functioning of the governance structure. It is critical that there is substantial financial autonomy, periodically reviewed and upgraded if necessary, for each Dean so that papers need not move to sanctioning authorities for minor matters. (This matter is currently being considered by the Administrative Processes Review Committee). Where a related body to the Dean in question actually generates money, a fraction could be directly assigned to the Dean for expenses related to the functioning. This is already happening in the case of Dean(R&D). But it should also happen for Dean(SA) and Dean(AP) who deal with students and often have urgent need for money to carry out duties. They could be assigned some fraction from the income through Mood Indigo, Techfest etc. The support staff for Deans should be adequate to effectively carry out their duties.

The Dean/Associate Dean division of duties should, in a sense mimic the Director/Deputy Directors division. Day to day tasks must be passed on to the Associate Dean(s) while the Dean could concern himself/herself with



plans and issues which are larger and more long range, perhaps based on possible future directions of growth.

Two changes in nomenclature in relation to Deans have been made. In one of these cases, the duties have also been rearranged.

The present Dean(RM) not only is responsible for mobilising resources (primarily through alumni and corporates), making sure that relevant bodies within the Institute do utilize these resources, reporting on the progress of the utilization but also for budget allocation, deciding on investments etc. In the proposed structure, the duties of Dean (ACR) will comprise only the part that involves generating, ensuring and reporting on utilization of resources. As mentioned before, the DD(FEA) will directly handle budget and investment.

The term ‘planning’ can refer to many kinds of things: academic programmes, financial, infrastructure etc. The present Dean(Planning) actually looks after ‘Infrastructure Planning and Support’ and has been so renamed.

The duties of the Deans are given below.

*Dean(ACR):*

- Organizing efforts for generating funds by way of donations from alumni, corporations, trusts and well wishers.
- Advising bodies in the Institute which seek to generate funds through similar methods and coordinating their efforts.
- Creating and maintaining the structure for followup of donations including periodic reporting, to the donors and to the world at large, of progress in projects.

*Dean(AP):*

- Dealing with all academic matters concerning students.
- Coordination between courses, between curricula and between departments in academic matters.
- Handling problems relating to semester/credit systems and to introduction of new programmes.
- Handling curricular matters in joint programmes with other universities.

*Dean(F):*

- Organizing efforts towards creating an institutional ambience for attracting and retaining faculty of high quality.
- Managing faculty requirement including marketing of positions, procedures for recruitment, reappointments, and interacting with well wishers such as the I.I.T. Bombay Heritage Fund/I.I.T. Alumni/FAN for this purpose.
- Planning for faculty development, institution of various special faculty positions such chair, guest, adjunct and exchange positions.
- Representing the DD(AIA) as a single reference point for all faculty matters including approvals.

*Dean(IR):*

- Organizing efforts towards interaction with academic bodies at the international level including joint programmes, student and faculty exchanges through agreements with concerned institutions.
- Planning and managing details of visits of delegations from academic and research bodies and of exchange students and research workers.

*Dean(IPS):*

- Creation of new civil infrastructure and maintenance of existing civil infrastructure in the I.I.T. Bombay campus. (The civil infrastructure includes all buildings in the academic area, residential hostels for students, staff accommodation of various types, buildings for general facilities, roads, gardens, play grounds, along with related utilities such as water supply, electricity supply, etc. for the whole campus).
- Managing all estate related matters that may come up time to time such as allotment of accommodation (staff and faculty), outsourcing of labor and conservancy staff services, space allocation, rentals of rooms, shops, recreation areas within the campus, etc.

*Dean(R&D):*

- Enabling the creation and maintenance of an environment, including infrastructure, equipment and support staff, for conducting research at a high level in the Institute.
- Providing support for researchers to liaise with potential funding sources and for collaboration with other researchers within and outside the Institute.
- Enabling exploitation of research done at the Institute, including licensing and commercialization, to address problems of industry and society.
- Providing administrative support for conducting research, including human resource and financial management, procurement.

*Dean(SA):*

- Dealing with all matters pertaining to student health and welfare, discipline and student emergencies on campus, liaising with local authorities on matters pertaining to students.
- Developing and obtaining budgetary approvals for hostels, for gymkhana and for student activities.
- Coordinating with faculty advisers regarding special categories of students including foreign students, coordinating and managing student welfare and aid related bodies.
- Coordinating all extracurricular activities including sports, cultural, technical and NSS/NCC/NSO, overseeing bodies such as Mood Indigo, Techfest, Ecell, Insight, Awaz and Robocon.
- Managing welfare and administration of Gymkhana and Hostel Staff.

The following are the Associate Dean positions.

Under Dean(AP), it is essential to have at least one Associate Dean position. The person concerned can additionally also act as one of the conveners of UGAPEC,PGAPEC. It is desirable that selection process for this position be initiated right away. One more such position might be needed in the near future.

Under Dean(SA), the chairmen of HCU, Gymkhana (Cultural), Gymkhana (Sports) may become Associate Deans (Hostels), (Cultural), (Sports) respectively.

We note that a second Associate Dean position for Dean(Planning) (now renamed as Dean(Infrastructure Planning and Support) has already been sanctioned by the BOG. Action may now be initiated to select a suitable faculty member for this post. Dean(R&D) may need to have two Associate Deans in place of one at present since the scope and intensity of activities have increased. It is better that this additional position is sanctioned right away, although selection for the position may be done at a time deemed appropriate by the Dean(R&D).

### **5.5.1 Reorganization under Deans**

It may be worthwhile for each Dean to carry out a study of the organization under his/her control and perhaps make changes for better efficiency. The Deans for whom this exercise seems particularly fruitful are Dean(SA) who controls the extensive Gymkhana and Hostel setup, Dean(IPS) who controls all the estate office and design cell setup and Dean(AP) who controls the academic office setup.

We understand that some work in this direction has already been carried out by the present Dean(Planning) who is proposed in this report to be renamed Dean(IPS). We have suggested that Dean(IPS) be the person who is fully in charge of all creation, maintenance of civil infrastructure and managing all estate related matters including allotment of accommodation. It is thus desirable that the Accommodation Allotment Committee function under Dean(IPS). It is also desirable that the committees which advise him, viz. Master Plan Committee and Environmental Advisory Committee, be merged into one, perhaps renamed as Planning Advisory Committee. The Dean(IPS) needs to be fully aware of all proposed academic programmes which may need expansion of infrastructural support. It is therefore recommended that he be exofficio member of the Undergraduate and Postgraduate Programmes Committees (UGPC and PGPC).

Very substantial changes are taking place in academic programmes in the Institute since the far reaching reorganization of the undergraduate curriculum implemented according to the 'Biswas Committee Report' in 2007. There are also the additional responsibilities involved in setting up sister institutions. It is urgently necessary that the academic office be suitably

reorganized and its processes improved to handle the extra work that has come its way.

It is strongly recommended that research associates/project staff with IT skill be hired for automating processes currently under Dean(IPS) and Dean(AP). The training of such staff is best done by ASC.

## 5.6 Professors in Charge and Heads of Centres

We have a number of Professors In Charge (PIC) of bodies and Heads of centres currently. They are listed below. No new positions have been introduced.

- Head (Computer Centre)(CC)
- Head (Centre for Distance Engineering Education Programme)(CDEEP)
- PIC (Continuing Education Programme/Quality Improvement Programme) (CEP/QIP)
- PIC (Training and Placement)(T&P)
- PIC (Society for Innovation and Enterprise)(SINE)
- PIC (Applications Software cell)(ASC)
- PIC (Institute Student Mentorship Programme)(ISMP)

These are currently existing positions. Of these Heads (CC,CDEEP) and PIC(ASC) would report to DD(AIA) while PICs (CEP/QIP,T&P) would report to DD(FEA). All of these would interact closely with the other DD (to whom they do not report).

The PIC(ISMP) would guide the student mentors who are responsible for monitoring activities of freshman students who may have difficulties in coping with the curriculum or with life in the campus. It is suggested that he/she reports to Dean(AP) but interacts closely also with the Dean(SA).

### 5.6.1 Changes to be expected

Some of the bodies mentioned above are poised for substantial growth and can act as powerful agents of change for the Institute and, in some cases, for the country at large. It may be necessary to review the governance structure in relation to them in the near future.

The Society for Innovation and Enterprise (SINE) has grown in variety and strengthened its impact since the idea of it was mooted less than a decade ago. Its presence in the campus enthuses both faculty and students by opening up entrepreneurial possibilities for technical ideas.

The Applications Software Cell (ASC), in addition to its present duties of developing and maintaining software for administration, accounts and academics related processes, can also play an important role in training manpower for automation of different administrative units in the Institute. This is perhaps best done by hiring and training project staff or research associates stationed in the units concerned but working towards a degree in Computer Science or Electrical Engineering. There is an urgent need for this both in the academic and estate offices.

The Institute Student Mentorship Programme (ISMP) has made substantial strides in the last few years and seems destined to play a vital role in altering student attitudes and therefore, in enriching student life in the campus.

The Centre for Distance Engineering Education Programme (CDEEP) can enable I.I.T. Bombay to make available its courses to engineering colleges in India, starved as they are of good faculty and hence, of good educational programmes. Judging by its present growth rate, and the enthusiasm with which faculty have embraced it, it is safe to predict that distance education will become as important a part of the duties of the faculty as class room teaching is, at present. The activities of CEP in continuing education have also grown immensely, indeed, have even reached beyond the country's shores. The QIP programme, taken in conjunction with our PhD and MTech schemes for college teachers and the mentoring schemes for faculty from sister institutions, can be substantially increased in scope. There is a synergy between the activities of CDEEP, CEP and QIP. Through them I.I.T. Bombay can make a substantial contribution to the betterment of science and engineering education in the country, to updating the skills of the country's technical manpower and, further, can even establish a global presence in education. We should seriously consider strongly linking these activities

by bringing them under a Dean's office, to be created exclusively for this purpose.

## **5.7 Registrar**

The Institute is undergoing rapid changes which constantly throw up problems to be solved. The solutions have to be looked for within the framework of the Government of India rules that we operate under. A good understanding of the rules is essential for this purpose since a naive interpretation will prevent most actions as 'illegal'. The Registrar should be the person who knows and understands all the Government of India rules under which the Institute operates. Ideally, presented with a proposed procedure which will solve a problem, but which is technically against the rules, he/she should be able to suggest alterations so that it is within the rules and still does solve the problem almost as well.

The Registrar must provide significant inputs to human resource development in relation to staff. He/she must routinely and closely monitor deployed processes to identify bottlenecks and recommend ways of avoiding them. He/she must, in addition, identify skill sets that are important in staff manning various process elements, create and operate specialized training modules aimed at improving efficiency of staff involved in running the processes.

Formally speaking, the Registrar will report to the Director. However, since the day to day duties of the Director have now been delegated to the DD(AIA) and DD(FEA), in practice he/she will interact closely with the Deputy Director under whose purview the matter under consideration falls.

## **5.8 Professional positions**

The professional positions are as follows:

Chief Financial Officer (CFO): The occupant would assist DD(FEA) to manage all the non MHRD funds and would collaborate with the Registrar to prepare the overall budget, to plan the investments, and, to continually professionalize the accounts activities of I.I.T. Bombay. In terms of both MHRD and non MHRD funds, the CFOs duties would include financial planning, investment, budgeting, fiscal controls, cash flow management, professionalizing the accounting, and audit. He/she would report to DD(FEA).

Manager/General Manager (Constructions): The occupant would assist in planning and implementing all new constructions and large structural renovations and to collaborate with the Master Planning Committee (MPC) and the Environmental Advisory Committee (EAC) for planning the long term development of the campus. He/she would report to Dean(IPS).

Manager/General Manager (Campus Maintenance): The occupant would supervise and improve all outsourced and in-house services to maintain and upgrade all the immovable properties of I.I.T. Bombay. He/she would take the initiative to improve the speed and quality of the services provided. He/she would report to Dean(IPS).

Manager/General Manager (Alumni and Corporate Relations): The occupant would take the initiative in all fund raising drives with alumni and with industries. He/she would also be aware of all followup activities in the Institute and be responsible for the reporting of such activities to the donating bodies. He/she would report to Dean(ACR).

Manager/General Manager (Information Management): The occupant would manage all computer network issues in the campus. He/she would report to Head(CC).

Public Relations Officer (PRO): The occupant would be in charge of the planning and execution of all public relations activities as well as important Institute level functions. She/he would report to the DD(FEA).

All the professional positions shall be appointed on a contractual basis for a minimum period of three years. We note that except for CFO, the Institute already has persons in essentially equivalent, sometimes in permanent, positions. What is being suggested is only reassignments of duties and not changes in title or in service conditions.

## **5.9 Details of duties delegated from the Director**

It is recommended that the following duties be delegated from the Director to DD(AIA).

- All Senate related issues (eg scheduling, agenda, minutes; also familiarity of the details of the agenda items). DD(AIA) may also be the Deputy Chairman of the Senate. Further, in the absence of the Director, he/she can function as Chairman(Senate).
- Choosing names of external examiners for PhD theses (can also be handled by Dean(AP)).



- Many issues of faculty recruitment, eg ‘promotions’, including chairing of the selection committees, as well as direct involvement in screening new faculty applications.
- Chairing of all standing committees for Adjunct faculty, Visiting faculty, etc.
- Organizing and running the HODs meetings.
- Meeting all weak students and students’ parents for special cases (can also be handled by Dean(AP),(SA)).
- Meeting all students for gymkhana, etc. together with Dean(SA).
- Co-ordinating visiting academic and R&D delegations together with DD(FEA) except where the President or Vice-Chancellor is visiting, which Director should handle.
- To inaugurate most conferences, workshops, etc.
- Planning of major new constructions (in collaboration with DD(FEA)).

It is recommended that the following duties be delegated from the Director to DD(FEA).

- Planning of major new constructions (in collaboration with DD(AIA)).
- De facto approval of all estate related and construction related files (Director may have to actually sign).
- Most staff matters, including recruitment, promotions etc., including chairing selection committees.
- Many issues of Group A staff recruitment eg DR, AR, PRO, etc., including chairing selection committees.
- All matters related to budgeting and finances for the Institute.
- Responsibility for BOG matters together with Registrar and Director (eg preparation of BOG agenda and scheduling pre-Board meetings, follow-up on some BOG items).

- Initiating and following all MHRD related activities (some would need Director's inputs also, but DD(FEA) should be the main contact person).
- Co-ordinating visiting academic and R&D delegations together with DD(AIA).
- All alumni interactions, except with very high-profile alumni (along with Dean(ACR)).
- All public relations activities, except interviews, etc.

In staff matters, the DD(AIA) may also play a significant part. In particular, the duty of chairing of selection committees may be shared by both the DDs. The Director would retain the following:

- All long term planning, including campus town planning.
- All major new academic and quasi-academic initiatives.
- Interaction with high-level delegations.
- Attending high-profile meetings and conferences, and being on the Boards and Committees of companies, government agencies and Institutes (in India and internationally).
- Talking to high profile alumni and corporations for donations and engagement.
- Faculty recruitment.
- All major publicity, including media interviews.

It is hoped that the relieving of the Director from day to day tasks will allow him/her to spend quality time with staff, students and faculty. For instance, there would now be time to spend say an afternoon once every few months with each department, more time to listen to concerns of individual faculty, particularly new entrants, to meet staff and students more regularly in a relaxed informal manner. Generally, there should be more time for the Director to feel the pulse of the institute and get deeper insights into its heart.

The diagram of the structure is displayed in the last page. Below the level of the Director a single colour has been used for all positions occupied by faculty and another for those occupied by professionals. The terms such as ‘Heads’ and ‘Professors in charge (PIC)’ need not be taken too literally and may change with time for a particular position. Where a lower level position is connected to one at a higher level by an arrow, the relationship is one of ‘reporting to’ while an undirected line implies ‘interacting with’. Figure 1 gives the structure from Director down to Dean level.

## 6 Some major suggestions

The three major suggestions made in the following pages do not directly affect the current or proposed governance structure. But, if implemented, would have a substantial effect on the way the Institute functions.

The separation of faculty recruitment from internal promotions will split a task, which achieves, somewhat inefficiently, two different purposes, into its component parts. This should result in greater effectiveness and considerable saving in time taken for carrying out the tasks.

The governance structure functions best when key nodes function autonomously. For an academic institution the key nodes are departments (a generic term to include centres, schools and departments as they exist in the Institute). Great attention must be paid to educating the departments to exploit the autonomy that already exists and to modifying the processes, both within and external to the departments, so that this autonomy is continually strengthened. This matter is dealt with briefly in this section and in greater detail in the Appendix.

The seeds of transformation must be contained in the governance structure for it to remain effective as time and circumstances change and also to correct errors that would have inevitably crept into any proposal, however well considered and well meaning. Periodic reviews are a very good way to understand how to transform the structure.

### 6.1 New faculty recruitment and internal promotions

At I.I.T. Bombay, recruitment of new faculty members and internal promotions of faculty members are mostly done jointly through a national selection process which is held regularly. Therefore, the frequency of these selection

meetings is high. In some years, they are held separately and that results in even greater number of selection meetings. The Director spends a considerable amount of time in reading the files of each faculty member and in chairing a large number of selection committee meetings every year.

The recruitment of faculty members at the entry level, and, the promotions, require very different evaluation procedures and they do not appear to be best done through the same selection committee meeting. In the case of promotions, the work and accomplishments that earn a faculty member the deserved promotion, can be documented. These should be compared with well laid out thresholds for each department, based on recognized productivity and quality parameters. Viewed as a task this appears standard, requiring no great innovation. On the other hand, aggressive search, scrutiny, collection of relevant data accompanied by a sound process of evaluation are required for the recruitment of bright young faculty members. This latter is probably one of the most important tasks of the leadership of the Institute and requires continuous reexamination, so that the Institute remains competitive with the best in the world. Considering all these, we believe it is a good idea to separate internal promotion from new faculty recruitments. It may be noted that, even now, our statutes state (page 11, Statute 12.1) ‘All posts at the Institute shall normally be filled by advertisement but the Board shall have the power to decide on the recommendation of the Director that a particular post be filled by invitation or by promotion from amongst the members of the staff of the Institute.’ The idea of separation of selection from promotion is thus not entirely new in the context of the Statutes of the Institute.

We suggest that internal promotions be conducted through a process similar to that followed at I.I.Sc., Bangalore. An Institute level standing committee consisting mostly of external experts and the internal functionaries chaired by the Deputy Director (AIA) could be responsible for all internal promotions. This committee could meet two to three times a year to decide on the promotion cases sent by the departments. A promotion unit in the administration could collect all the materials required to complete the nominations from the departments. We should adopt the best practices on promotions followed by leading research universities in the world, innovatively interpreted to meet our requirements.

In order to formally adopt the above recommendation, we need to change the Statutes of the Institute. This is a long drawn out process which could be initiated right away. However in the interim period before the Statutes

are changed we could operate as though the two processes are separate, i.e., there should be interviews which concentrate only on the promotion of internal candidates by advertising for posts to which faculty eligible for promotion could apply and compete against eligible outsiders. The preparation of papers of internal candidates can go through a review process as outlined above. However the final selection can be through open interviews where outsiders also compete and if found fit can enter the Institute. The recruitment of new candidates at the entry Assistant Professor level would be through another set of interviews. The process for this is outlined below. It may be noted that both these would follow the format of open selection. Their purpose as far as the Institute is concerned would be different and so would be the preparation for them.

We suggest that recruitment of new faculty members essentially be done by the concerned departmental search committees led by the Head. Considering the immense importance of this task, we suggest that a fairly elaborate and rigorous process be followed which could include a meeting of the candidate with faculty, student and staff of the departments and some selected senior faculty members of the Institute. The search committee should proactively pursue and attract bright young faculty members. Here again, we should follow the best practices of the leading research universities on this matter. Applications could be collected through the web round the year. The search committee could continually scan the applications to check for choosing the ones to pursue. The department and the administration could complete the files to place before the selection committee which should be chaired by the Director. We do not need to form a committee every time a selection is done for a department. Instead we can have a standing committee in which experts serve and retire periodically.

## **6.2 Departments as autonomous bodies**

The stature of an academic institution depends primarily on the strength and effectiveness of its academic units viz. the departments (as a generic term including centres and schools at I.I.T. Bombay). Organizationally, it is desirable that departments function as though they are mini institutes largely functioning on their own, having their own plans for action and growth but coordinating with the broad plans and practices of the Institute and delivering needed services for its larger good. The Head of the department and the faculty team assisting him/her should be empowered to take leadership

in education, research and outreach. Most papers could be dealt with by the departmental committees and the Head and decisions could be taken at the department level. The new research focus of a department, recruiting and mentoring of new faculty members, etc. should flow from the academic leadership of the Head. Most departments do not exploit the degree of autonomy already available. In Section 9 (Appendix) we have discussed what could be done by departments with greater autonomy and how the Institute could coordinate the behaviour of autonomous departments through suitable mechanisms of reward.

### **6.3 Reviewing the Governance**

I.I.T. Bombay does not have a review culture desirable for a leading academic institute. We need this primarily to improve our performance at all levels and to minimize wasteful endeavours. There can be a review of the performance of the leadership positions not less than once in two years and a review of the performance of the academic units not less than once in seven years.

We suggest that a comprehensive performance review of all the functionaries starting from the Heads to Deputy Directors may be performed to keep the overall governance at a high level. Periodic sound review carried out in a professional manner in a positive environment is likely to be welcomed by the people of I.I.T. Bombay. This, combined with a sound search process in place, may in fact create the environment we need in which persons of a high level of integrity and competence, who also have interest in and flair for administration, get to occupy these positions.

With the review in place, it would then only be fair to have a substantial additional compensation or administrative bonus for these positions. The leadership positions that work towards creating values for the Institute must also be compensated in the manner of sharing the values in tangible form. Without good compensations, it would be difficult to attract the best people to these positions.

The annual or biennial review of various leadership positions should be done by the faculty and students as is deemed relevant. The review could be in the form of a simple questionnaire seeking response from the people at I.I.T. Bombay. It should clearly bring out the areas where improvements in service and leadership are called for. We need not have any specific review committee for these reviews. An Institute level internal committee could collate the responses and communicate to all who participated in the review

in a constructive manner.

An academic unit should be reviewed comprehensively for the education it has been providing, for the research work it has carried out, for the outreach programmes it has been running and for the societal obligations it has met. A committee consisting of experts from academia and industry and some professionally successful alumni could carry out the review. Further, through anonymous surveys, opinion of the faculty at I.I.T. Bombay, who are not members of the body being evaluated, could also be sought. In addition to the review of the performance in terms of various productivity parameters, attempts should be made also to review the growth of the quality indicators and the bench marks. Every review could set annual or biennial targets to plan for the growths. It is not desirable that such reviews be carried out for evaluating the academic performance of individual faculty since it puts needless pressure to conform on essentially independent and capable individuals whose growth in unforeseeable directions might be valuable for the Institute. However, the output of the faculty in terms of teaching, research and community service may be used as the basis for rewards for significant productivity.

## 6.4 What can go wrong

It is difficult to visualize all consequences of a suggested course of action. However, it seems worthwhile to play the devil's advocate and examine some of the things that can go wrong if the present proposal is implemented in the wrong spirit or with insufficient care. The following ideas have been used in the present proposal to improve efficiency and responsiveness.

- Create more decision making nodes in the organizational tree (eg. Deputy Directors, Deans, Heads).
- Bring in professionals if the job requires a professional.

Presently at the apex of the organizational pyramid of the Institute we have essentially a single unit composed of the Director and Deputy Director, with the Director as the main decision maker and the Deputy Director as the person who handles some of the day to day matters. We have replaced this unit with a single root node (Director) with two child nodes (Deputy Directors). It is important that each Deputy Director has clear non overlapping jurisdiction from the others where he/she is the ultimate authority. The hope

is that much of the decision making load of the Director is now distributed to two others. Situations which involve both would of course require consultation between the two and perhaps with the Director. Every attempt must be made to try to minimize such consultations whenever possible. Otherwise the procedures would degenerate to decisions being taken only when all three meet, which would be much worse than the present situation where the Director can decide on his/her own. Similar situations can occur at lower levels involving Deans or Heads.

*Rule: whenever decision making nodes are created, majority of the decisions should be made without consultation at the same level or levels above.*

While it is a good idea to use professionals it is necessary that there should be an elaborate search and evaluation procedure prior to the formal interviews so that only persons of integrity and competence get selected. We do have such procedures in place for hiring faculty, where the person's performance history is obtained by contacting former superiors and colleagues formally and informally. It should not be difficult to adapt them for hiring professionals.

*Rule: Use elaborate search and evaluation procedures for hiring professionals.*

## **7 Participation of faculty members in administration**

Most faculty members regard administrative duties as a necessary evil, taking much needed time away from their professional commitments. Should administration at the Institute be left largely to professionals who have no direct involvement in academics? Wherever the matter is not directly related to academics and needs specialized skills it is preferable that professionals administer. However, at the level of Dean and above it is necessary that faculty members man the positions, even if at first sight the relevant duties appear essentially administrative rather than academic. For instance, the position of Deputy Director (FEA), in the proposal of the present report is an administrative post. But the policies followed by the incumbent would affect academic work in a very serious way. To give an example, if the Institute has to make major headway in research productivity, technical manpower has to be treated more imaginatively than is being done now. Presently, tech-



nical support staff have a career graph which is not as attractive as those on the administrative wing. A person with a corporate background may not perceive this matter as urgent the way an academic would. In general the measures of performance for an academic institution would not be completely quantifiable the way a high level corporate executive would prefer it. This fact would be appreciated (perhaps to varying extents) by almost anybody with research training. Areas which are not currently fashionable should still not be allowed to die out. A skill that dies out is not easily regenerated. Serious academics would not always behave in ways which would appeal to the sense of discipline which corporate executives need for survival.

In a large institute with a liberal policy in recruiting, skill in an entrant is treated as essential but a considerable latitude is permitted in opinions and in career goals. In such a place it is reasonable to suppose that there would be a significant proportion who have ambitions towards and talent for educational administration. For the country as a whole this is a valuable resource, for this is the group which later would provide educational policy advice to the government and which would also head institutions of learning. Therefore, faculty members who have satisfactorily proved their worth as academics, if they have interest in administration, should be encouraged to take up such posts within the Institute. Their contribution to overall excellence of the Institute and their potential impact on the educational health of the country should not be underestimated.

## **7.1 Committee Work**

A committee brings together persons possessing different skills and views for a specific purpose. Often committees are essentially permanent entities where the membership changes periodically. In other cases, the committee ceases to exist once its purpose is served. Most faculty complain of the amount of time that they have to spend in committee work. The governance structure has committees of varying degrees of vitality. Some, such as the DUGC, DPGC, UGAPEC, PGPC are key academic bodies without which the academic activities of the Institute cannot be carried out. A faculty member has to serve in such committees as a part of his/her duties. The questions that we have to address are whether a committee is redundant, whether some can be merged keeping the size as that of a single committee, and whether it is possible to have the committee without faculty participation.

A committee becomes redundant because although it was formed as a

permanent body its relevance has been eroded over time. Very often committees are constituted without a full awareness of existing committees leading to overlap of purpose or, in extreme cases, duplication of purpose with existing committees. In the past, it was believed that faculty participation was necessary to maintain high standards of integrity and also to bring in fresh ideas. Presently, the prevailing opinion is that a good professional approach to the functioning of committees with proper checks and balances would serve equally well.

Currently we have committees of many kinds, whose charter is unclear, end date is not set, etc. As a result committees come into being but never go out of existence, for the most part.

We recommend that there should be just three types of committees: statutory (eg. senate), standing (eg. IRCC advisory committee, Deans' committee, ISPC) and temporary committees (eg. B.Tech. curriculum reform committee). Whereas the charter for the first two are usually well laid out, this is often not the case for the third. For the committees to function well and be inclusive and participatory, it must be made sure that any entity suggesting the formation of a temporary committee should develop the charter for the committee with an unambiguous set of dos and donts. It may also be worthwhile to appoint the convener first and consult him/her in choosing the remaining members. If the members believe that the committee has an essential purpose, serving in it would not be regarded as a painful duty.

For every committee there should be a lifetime either in terms of goals to be achieved or in terms of duration. Further, the connections/relationships between a new committee and existing ones should be stated in explicit terms so that committees work synergistically and decisions are mutually reinforcing rather than conflicting. During formation of the committee a careful examination of the necessity of faculty participation must be performed. If faculty participation can be avoided without serious loss of value to the purpose under consideration, then the committee should have no member who belongs to the faculty. Finally, there should be an upper bound, say three, on the number of committees that a faculty is a part of, if the role is not ex-officio.

**Acknowledgements** This report owes its existence to the efforts of many people. In particular, the present committee has paid attention to the views of the faculty at large and of functionaries past and present (see Subsections 4.1, 4.2 and the report submitted online by the committee on November

2007<sup>1</sup>), the presentation made by Professor J. Vasi on governance structure at I.I.T. Bombay at the Institute faculty meeting held on 7th February, 2007, the discussion document<sup>2</sup> and the interim report<sup>3</sup> prepared by Mckinsey and company on governance at I.I.T. Bombay. The criticisms received at the meeting of the faculty on January 30, 2008, to discuss the November 2007 report, have caused a complete reexamination of the structure. Among other things many functionaries have been consulted on the new structure and the time spared by them is gratefully acknowledged.

## 8 Conclusions

We have presented a modification of the governance structure existing at I.I.T. Bombay which, in the opinion of the committee, would make it more efficient and responsive. The modification consists in the creation of more decision making nodes in the organization, in the improvement of planning capabilities and also in reducing faculty participation in areas where professionals would be more suited. Specifically, the present ‘Director+Deputy Director’ supernode in the organizational tree of the Institute has been split into four nodes: The Director, who would take care of long range matters both internal and external, the two Deputy Directors who would carry out many of the day to day tasks which at present the Director performs and the Chief Strategist who would advise the Director. The two Deputy Directors would function largely autonomously. The Chief Strategist has only planning and no executive duties.

In addition three major suggestions have been made which, if adopted, would lead to substantial benefits. These are: separate the process of recruitment of faculty from that of promotion, make the departments more autonomous, introduce periodic reviews to evaluate the effectiveness of governance.

It is strongly recommended that the proposed structure, if implemented, be reviewed for its performance three years after implementation. In particular, it is necessary to ascertain if the delegation of duties to Deputy Directors

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<sup>1</sup>A New Governance Structure for I.I.T. Bombay submitted online at <http://www.me.iitb.ac.in/shashisn/committees/governance/>

<sup>2</sup>‘Creating a World Class Institution’ submitted by Mckinsey and company on June 21, 2007 to I.I.T. Bombay

<sup>3</sup>Interim presentation made to I.I.T. Bombay on September 21, 2007

from the Director is working well and that the position of Chief Strategist has been utilized well. It is also necessary to examine if autonomy at the level of Deans and Departments has improved in practice.

The committee would like to stress that the modified structure still has a centralized character in the manner in which all the units interact. This structure would probably be adequate till the Institute reaches two to three times its present size. Beyond this size it may be better to go to a structure based on autonomous colleges.

## **9 Appendix: Departmental Autonomy**

### **9.1 Department and Institute**

The stature of an academic institution depends primarily on the strength and effectiveness of its academic units viz. the departments (as a generic term including centres and schools at I.I.T. Bombay). Organizationally, it is desirable that departments behave as though they are mini institutes largely functioning on their own, having their own plans for action and growth but coordinating with the broad plans and practices of the Institute and delivering needed services for its larger good.

Departments need to function in two modes which, fortunately, very often merge. From the point of view of the Institute, let us call them the ‘department mode’ (‘d-mode’) and the ‘institute mode’ (‘i-mode’). When the department is in the d-mode the purpose should be towards competing with the best departments in the world professionally in terms of teaching and research, interaction with industry and universities, fund raising etc. When it is in the i-mode whatever is done should be in the larger interest of the institute, its students, academic programmes, research and development, fund raising, contact with the world outside etc.

The Head of the department and the faculty team assisting him/her should be empowered to take leadership roles in education, research and outreach. Most papers could be dealt with by the departmental committees and the Head and decisions could be taken at the department level. The new research focus of a department, recruiting and mentoring of new faculty members, etc. should flow from the academic leadership of the Head and his/her team. Departments function best, academically speaking, when the faculty hierarchy within the department is largely flat with every member

seeing very little constraint or control on his/her activities. Therefore whatever emphasis in directions of research or in academic programmes that is decided upon has to be done inclusively with every faculty member feeling part of the process.

Budgetary allocations to a department should be clearly spelt out. One may think of this as under 'routine' and 'flexible' categories. The routine category would include all funds coming to the department under plan/nonplan allocations which are under well defined heads. The 'flexible' category includes funds generated by the department by its own initiatives. At present this is largely through the overheads from projects, continuing education programme courses etc. transferred to the Departmental Development Fund (DDF). However, other means of generation should constantly evolve. For instance, the Head could lead fund drives for the department with assistance from her/his colleagues from alumni and industries in coordination with the Dean(ACR). The fund so raised could be shared between departmental and institutional utilizations and the former could be treated under the 'flexible' category.

It is desirable that departments be coaxed to function in the i-mode as far as possible since their natural tendency would be to remain always in the d-mode. A good way to do this is to reward the departments suitably when they function in the i-mode. To give an example, the number of courses provided by departments for extra departmental students, varies widely, particularly among engineering departments. It is in the interest of the richness of the academic programme that this number increases at every level. The departments could be financially rewarded for such service whenever it is above a certain level measured say in terms of (course  $\times$  student units). Similar things could be said for serving in committees, institute level administrative positions such as wardenships, institute level mentorship programmes etc.

The 'flexible' fund could be operated as part of DDF or the Head could maintain a departmental bank account subject to all necessary audits, with the assistance of a small accounts unit at the department level. At present this appears to be quite conveniently done in the project mode through IRCC.

## **9.2 Departmental Administration**

The department needs trained support for carrying out its administration. The training should be both in procedures in the department as well as in those dealing with Institute administration. It is becoming increasingly im-

portant for support staff to be skilled in the use of software tools related to document processing, to maintaining accounts and to automation of administrative interactions. Most of the training should be done centrally but more specialized training that a particular department might need could be given at the department level. Routine parts of all administration must be automated. Many departments have already begun doing this.

A part of the administration must act like a window to the Institute so that the users in the department need never go to the main institute level administrative staff but rather deal with the 'window'. This holds, for instance, in the case of accounts, administration, stores, R&D, estate office etc. Presently, this is only partially the case.

Presently for most information about the current state of the department the Head is the single contact point. This is not reliable and also puts needless burden on the person in that position. Automating all routine actions within the department would make the needed information available to anyone with access permission. Such information could be about courses, student strengths in courses and in various programmes, past students, class room availability, time tabling, stores and purchase, status of projects, equipments in working condition, under repair or written off, safety procedures in laboratories, academic interactions with universities and industry, presentations for various types of visitors etc.

### **9.3 Faculty in the department**

Ultimately the stature of the department would depend upon the quality of its faculty and their actions. The primary responsibility for getting good faculty rests with the department. Therefore, faculty search is an important activity that should be done continually, using all means and reaching out all over the world. Assuming that faculty who come in are of high quality there is still the important problem of keeping them enthusiastic and productive. In the initial phase of their stay in the department new entrants should be mentored by senior faculty within the department particularly with regard to practices and procedures and the kind of research and teaching possibilities that exist. The mentoring should be unobtrusive and should also have the purpose of coming to know and alleviating the difficulties the new entrant might have in adjusting to the campus life and to the working conditions in the department.

One should expect a wide variety of interests among faculty members and

it is important that each gets a feeling of being appreciated. Rigid quantification of norms for progress is therefore not desirable. However, one way of ensuring a high level of activity among faculty is to encourage them to continually give details of their actions in a manner that is visible to colleagues and sometimes to larger groups. For instance, if courses are being taught, they could make public, outlines of individual lectures or even detailed notes, tutorial sheets, exam question papers, assignments given, answers to problems etc. ('moodle' is quite suitable for this.) The same holds for seminars, research reports, community activities, interaction with the outside world etc. There could also be periodic summary reports culled out of these details at the individual, group and departmental level.

One of the important sources of energy for an institute to grow is the personal agenda of its faculty. While many would have a predictable professional agenda others might be more unusual. For instance, in our own institute many outstanding faculty have, close to their heart, environmental issues, social and student issues etc. Such faculty must be empowered and encouraged by the formal administrative setup and not be thought of as hurdles to be overcome. This would have the benefit of making the Institute attractive to bright faculty, of keeping them enthusiastic and of course of getting tasks vitally important for the Institute's wellbeing done very well.

All faculty should constantly function as the think tank of the department debating on tasks for the future and on how to carry them out. For instance, this could involve data collection or automation of tasks which have steadied into a routine mode. This might require induction of manpower with specialized skills temporarily into the department. The 'flexible' fund can be used for this purpose.

## **9.4 Staff in the department**

For efficient functioning of the department the presence of skilled, dedicated staff, both technical and administrative, is critical. Upgrading of their skills must be a continual process. They must participate in the creation of tasks keeping in mind present and future needs of the department. Staff should always be made to feel appreciated for their efforts and feel a part of the 'family'.

One may think of the tasks in the department in terms of their routine-ness. Where possible, if a task is routine, it must be automated. Human beings would be needed to decide on what to automate, to design the tool,

and to use it. They are also needed when the task does not fit into the existing automation and when judgement has to be used. Lastly, human beings are crucially needed to recognize problems faced by human beings, to alleviate them and thereby to boost morale.

Skilled clerical staff can relieve faculty of most routine chores, remind them of important tasks in addition to serving as a buffer against unwelcome interruptions. Pockets of efficiency of this kind exist in various places in the Institute and their effectiveness in improving faculty productivity can be readily seen.

In most departments, there is an acute shortage of technical manpower. It is too much to expect that when such manpower is inducted it would also be skilled. The task of teaching them must be taken seriously by senior staff and by faculty and this must be a continuing process. Usually this is greatly valued by the trainees and gives them a sense of being cared for and therefore of belonging. They must be kept occupied with tasks which give them satisfaction by exercise of skill or, when it is routine, by their 'owning' it and appreciating its beneficial consequences.

It is especially important to reward initiative, innovativeness and significant contributions. Monetary rewards are possible and should be adopted using various funds available. In addition, where possible, conveniences should be made available. For instance, it may be possible to make facilities available for children of staff, or indirectly fund their education. The 'flexible' money generated by the department must be used for such purposes. For most workers at all levels, appreciation of peers is a very important motivation. Every opportunity for such appreciation, whether explicit or subtle must be made use of. Senior staff and faculty should always keep this task in mind.

## **9.5 Students in the department**

The quality of students in the department determines its stature to a great extent. Presently, students enter the department through JEE at the undergraduate level, GATE or equivalent examinations at masters level and through interviews for PhD. The quality of the entrants at the postgraduate level can be enhanced by making research activities in the department visible and thereby making it attractive to bright students. Substantial effort must go in this direction. This can be done very effectively simply by documenting activities such as courses, seminars, research projects and making



them accessible to the world outside. Presently the academic programme of the Institute largely depends on senior students (Research and Project Assistants) for manning laboratories. The skill required in such cases has to be separately looked for and would not be evident from examination performance in the past or through interviews which emphasize only mastery of fundamentals and quickness of reaction. Among other methods Institute level programmes such as the 'I.I.T. Bombay Research Fellowship' have been very successful in bringing in such talent.

Once a student comes into the department, he/she must be treated as a valuable resource which must be nurtured with great care. An attempt must be made to understand the problems faced by students, and the pitfalls awaiting them. Constant attention must be paid to keep them enthusiastic and active using senior students as mentors. Awareness of departmental research activity is important for students. Brief overview seminars should be frequent at every level in the department.

It is natural for young students to look for short cuts to achieve their goals and these would not always be consistent with the academic purpose. This tendency must be kept in check using senior students as mentors to create the right atmosphere and also by using routine mechanical means of monitoring wherever possible. As far as possible one should look for innovative methods for preventing wrong actions rather than adopt punitive measures. Young people are also prone to mental disturbances of various kinds. There should be a counselling cell within the department made up of senior students and guided by sympathetic faculty.

The departmental student association must be kept active and vibrant and must constantly be on the lookout for activities of relevance to take up. Student mentoring, counselling, women student cell etc function best under the umbrella of the student association since it provides the necessary monitoring of vitality and indeed, ensures even their continuity of existence.

## **9.6 Head of the Department**

It can be seen from the above, that the Head of the department has a very difficult task to perform both in keeping the house in order as well as in dealing with the world outside.

The leadership provided by the Head should not be obtrusive. Faculty perform best when they perceive no overt control on their actions, since they then act with enthusiasm and deliver far more than expected. Before they

are nudged in a certain direction they should first be won over. Further, sometime or other an individual's actions or desires would conflict with the good of the group to which the individual belongs. To bring this fact to the concerned individual in a discreet way requires tact and diplomacy. To a lesser extent this can occur with staff and students too. Treating human beings with concern and respect pays manifold in the long run.

The other important component of the Head's role is that of dealing with external interactions both at institute level and beyond. A substantial part of this activity cannot be formalized but is very important for the effective functioning of the department and its growth. It is handling such informal matters which should take up the Head's time and not routine procedures which should be constantly sought to be automated or be handled by office staff.

It may be worthwhile for a Head, before taking up office, to spend several days with former Heads and senior faculty and staff understanding routine procedures, studying past situations which led to opportunities or to hurdles and receiving helpful advice.

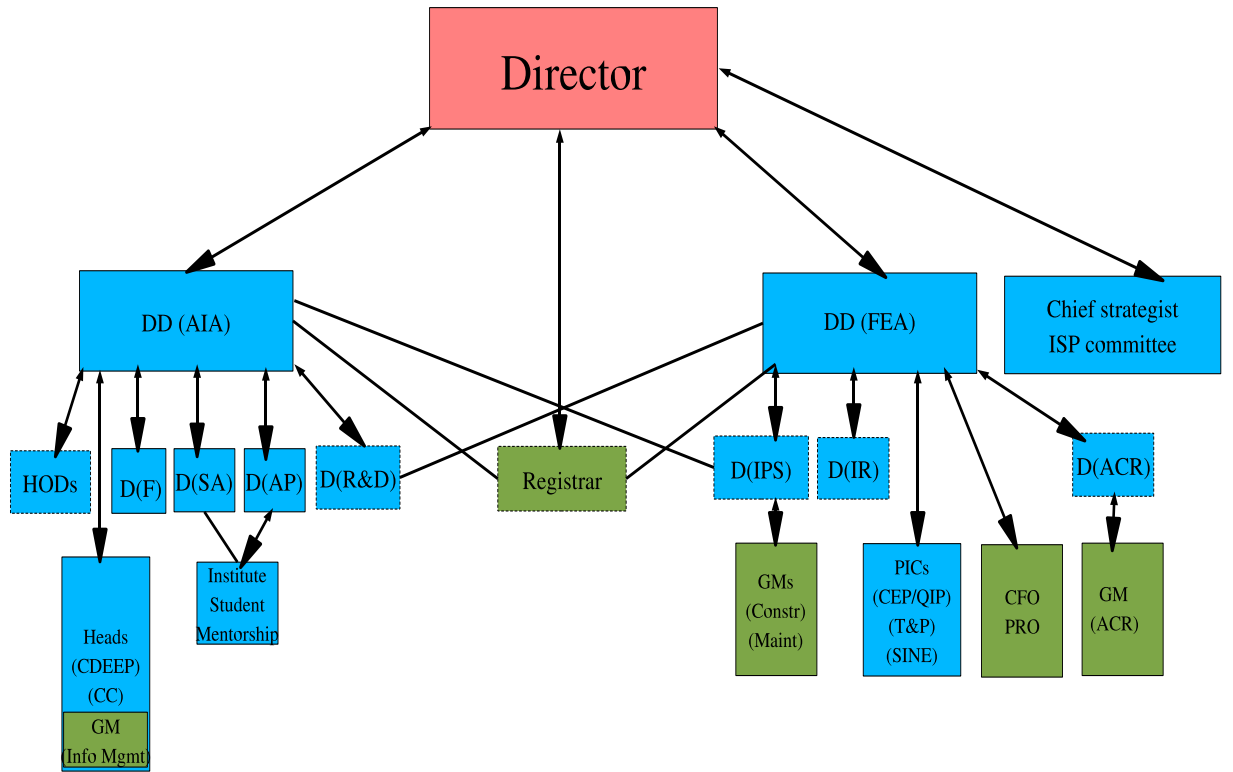


Figure 1: Structure: Director to Deans