1. Introduction

This paper provides an overview of some of the challenges facing professional forestry training and education institutions and the role of human resources development (HRD) in meeting these challenges. Since both authors are based in India and are most familiar with the Indian context, the experiences described in the paper are largely drawn from this country. In particular, two leading forestry/wildlife training and education institutions, the Indira Gandhi National Forest Academy (IGNFA) and the Wildlife Institute of India (WII), have provided many of the main cases and examples. We feel that this focus allows us to put many of the issues and discussions in the paper “into context” rather than simply discussing broad generalities which may or may not be applicable to a range of countries with different forest management histories, institutions and practices. We believe that many of the issues raised and lessons learned from the forestry training and education sector in India will be common to, and can be applied across, similar institutions in the Asian region.

The paper is divided into three main sections: a general background of the challenges facing the national forestry sectors, the role of forestry training and education institutions in meeting these challenges and changes, and the role of human resource development (HRD) in supporting this role; some key HRD issues based on experiences from institutions in India; and, some conclusions and recommendations on the way forward based on the Indian experience.

2. Background

If national forestry agencies are to effectively meet the future challenges of forest management, it is critical that they recognise the changing environment within the overall sector and are willing to modify their roles and responsibilities in the light of these changes. The role of forestry education and training institutions is crucial in building the capacity of forestry professionals to enable them to meet these challenges. These institutions in turn need to evolve in order to be effective in fulfilling their roles.

While, to some extent, the changing requirements of the forestry sector might drive forestry education and training institutions to change ("client-driven"), these institutions also have a role to play in "speeding up" the pace of change within the forestry sectors. However, if forestry education and training institutions are to play this latter, more pro-active role, they need to be strong, professional institutions that are constantly on the "cutting edge" of forestry and forest management thinking and application. Effective HRD is one of the means for these institutes to become more effective in meeting their own role of empowering and enabling forestry institutions to manage forest resources sustainably and equitably.

2.1 The Forestry Sector: Changes & Challenges

In many countries within the region, the last 50 years have seen a gradual change from "managing" forests for maximising government revenues to managing forests to ensure sustained yields of timber. More recent changes within the last two decades led to forests being managed not simply for providing timber revenues but also for providing various goods and services to society. This included both consumptive and non-consumptive services and led to a greater focus on the creation and management of Protected Areas for environmental conservation and recreation.

However, it is arguably the last decade that has seen a major evolution (and, some would say, a "revolution") in the orientation of the forestry sector in many countries in the region. The Earth Summit in Rio in 1992 shifted the focus of conservation from ecosystems and habitats to biodiversity. Effective forest management
was no longer about simply ensuring ecosystem integrity and representation but about ensuring biodiversity conservation – a much broader concept. At the same time, many countries in the region were starting to recognise the importance of wider stakeholder consultation and participation in decision-making related to the use and management of state forests. This has led to some radical changes (as well as proposed changes) in existing forestry (and Protected Area) policy and legislation in a number of countries in the region to enable broader stakeholder participation in forest management.

As national and international priorities within the forestry sector evolved, the role of foresters also underwent marked changes. In countries with a history of professional forest management, the early role of foresters was to work as engineers (as forest areas were surveyed, demarcated, mapped, and made accessible by roads) and serve as magistrates (as the first forest laws were developed and implemented). Later, as the field of silviculture emerged, foresters began to prepare and apply forest working plans that could maximise forest yields while conforming to "scientific" management principles. Foresters here were seen as "scientists" and "managers" of forests, albeit the major focus of the management was on maximising timber yields.

Over time, forest resources in many countries dwindled and pressures on forests from commercial interests and growing populations increased. At the same time forest conservation and sustainable forest management started to become increasingly important international issues. This led to another change in the role of the forester – who was now also expected to be a "forest policeman", guarding forests against "unauthorised" users. The enforcement of forest legislation became a priority, often pitting the forester against local subsistence users and commercial interests. Many foresters found themselves in a "no-win" situation during this phase.

In recent years, as many joint/participatory forest management policies are being developed and put into place, the role of the forester is changing again and probably in a very significant way. Participatory forest management requires a range of knowledge, skills and attitudinal development that so far have been outside the scope of requirement for foresters. This new approach requires major changes in the attitude of foresters whereby local communities are now seen as partners and stakeholders in forest management rather than the "enemies" of forests. It also requires knowledge and skills in effective communication, inter-personal relations, conflict management, mediation, facilitation and many other such "soft" sciences. At the same time, as biodiversity conservation becomes increasingly important, foresters also need to sharpen their understanding of the scientific theory and management principles of this approach.

In addition, it is also becoming increasingly apparent that the linkages between the natural and social environments can no longer be ignored. This has led to a proliferation of projects and initiatives focused around what could be loosely termed as "integrated conservation and development" (ICD). Many of these initiatives are exploring ways to mitigate pressures on forest resources from local users through the development of alternative livelihood options. Thus, many foresters are finding themselves plunged into areas related to small-scale and conservation-oriented income generation in which they have little prior experience.

Foresters today, therefore, are expected to fulfil multiple roles. They are expected to be the state-mandated managers of forests as well as partners in management who can advise stakeholders on the best way to manage community forests. They are expected to be mediators who can help resolve conflicts between stakeholder groups as well as the professionals with the scientific and technical know-how on effective ways to use and manage forests. They are expected to be able administrators who can efficiently administer large numbers of staff spread over vast areas of land as well as negotiators who can help develop collaborative agreements with multiple stakeholders for forest management. They are also expected to be lobbyists and communicators who can convince policy makers of the values of forest conservation as well as extension agents who can understand local needs and priorities and help develop options to meet these.

While the actual roles of individuals within the forestry departments may vary depending on their position within the departments, there is no doubt that almost every forester, no matter what his/her position will be expected to fulfill more than one of the above roles. The question then remains about where and how they can acquire the necessary knowledge, skills and attitudes (KSA) needed to enable them to effective accomplish these roles.

### 2.2 The Changing Role of Professional Forestry Training and Education

From the above discussion, it is apparent that, to be effective, foresters today need KSA well beyond those provided through "traditional" forestry training and education. Forestry training and education systems need to match the changing needs of the forestry sector. These systems vary widely in countries within the Asian region, with some countries having "dedicated" forestry colleges and training institutions. In other cases, foresters come into the profession with a background in biological sciences and some exposure to forestry
issues through university systems that offer such courses. Foresters in some countries in the region have access to specialised training only through occasional training courses conducted through international NGOs or donors.

This paper focuses largely on the first type of institution, i.e. the "dedicated" forestry training, education and research institutions which exist in many countries in the region including Pakistan, India, Nepal, Bangladesh, China, Malaysia, and Myanmar, among others. In the past, training offered by these institutions focused quite narrowly on "hard" biological and forestry topics such as silviculture, mensuration, inventories, wood sciences and botany. However, as forest management and the roles of foresters evolved, training curricula in many forestry training and education institutions were also modified to include a wider range of topics more closely related to forest management.

Examination of more recent reviews and reports of forestry education, training and research institutions reveals that there is increasing recognition within such institutes of the importance of including topics as well as training approaches that are more relevant to the needs of today's forest managers. In particular, there is recognition that foresters today need not only more scientific knowledge and a wider range of technological skills but also more social skills and a persuasive problem-solving approach. Consequently, topics such as the economics of forest management, cost-benefit analyses, conflict management, social structure and gender issues, land and forest rights and reforms, participatory rural appraisal, GIS and remote sensing, management of common property resources, etc. are increasingly mentioned within such reports. Similarly, progressive approaches to training and education involving participatory methodology such as the use of interactive and experiential learning, action research, case studies, etc. are also being increasingly discussed and promoted.

However, there is still a major gap in practice within most forestry training and education institutions. While the need for change is recognised by most, training still remains didactic in nature and is heavily biased towards forestry "sciences". Teaching and training materials and methods remain outdated and top-down. The teaching itself is uninspiring and is not seen as beneficial by the "clients", the forestry staff at different levels. They therefore either participate in the training reluctantly or do not avail of the opportunities altogether. As a result, many forestry professionals in the region are still unfamiliar with important approaches and practices that are essential to their jobs and lack the skills and attitudes needed to undertake their work effectively.

There might be many reasons for the ineffectiveness of the training institutions, ranging from a lack of facilities and infrastructure to a lack of competent staff and these would vary from country to country and institution to institution. However, the fact remains that even in institutions with competent and well-trained staff and adequate infrastructure and facilities, the impact of the training is not optimum because staff are often demotivated and demoralised, lacking the initiative needed to remain on the cutting edge of advances in forest management. These and a number of other issues related to the HRD dimension contribute to ongoing problems hampering the effectiveness of forestry training institutions.

3. HRD in Support of Improving Effectiveness of Forestry Institutions

This paper does not intend to delve into the fundamentals of HRD theory, which is covered in numerous publications. Instead, we would like to focus on some "practical" issues related to HRD based on our experiences with professional forestry institutions in India. However, as there are a large number of definitions and approaches related to HRD used by different authors and professionals, we would like to briefly our concept of HRD.

HRD is basically a systematic approach to build individual competence, develop motivation and commitment and to improve overall organisational effectiveness. We see HRD as having three main spheres of influence as conceptualised in the diagram below. At the core is individual effectiveness, which in turn influences organisational effectiveness and vice versa. These influences can be positive or negative. A core of competent and effective individuals can help enhance organisational effectiveness. However, at the same time, in the absence of an enabling environment at the organisational level, competent individuals by themselves may not lead to an effective organisation. Therefore, HRD is linked to both the development of individual capacity among staff as well as the creation and maintenance of an enabling environment that allows the individuals to function effectively. These are the two main levels of HRD that we will be primarily dealing with in this paper.

However, we see HRD as an approach that is not an end in itself but is linked to the wider external environment. Again, the relationship works both ways. Effective HRD that leads to effective institutions will
enhance the wider impacts of that organisation and will enable it to make positive change in the forestry sector. However, at the same time, it is clear that the external environment (especially in the case of government institutions) can often hinder the implementation of effective HRD mechanisms, thus decreasing the overall impact and effectiveness of the institution.

Competence, motivation and commitment to institutional goals and objectives influence individual effectiveness. HRD interventions that contribute to these characteristics include: manpower planning and recruitment; training and development; and, performance appraisals and promotions. HRD interventions contributing to organisational effectiveness include: work culture sub-systems (for e.g. relations between staff and supervisors, role analysis, teamwork, communications, incentives/disincentives; welfare; grievance redressal); and self-renewal sub-systems (for e.g. Diagnostic studies, introspection). The role and importance of these interventions is discussed further more specifically in relation to experiences from India.

Figure 1: A conceptual model of HRD and its relationship to the external environment

3 Forestry Training and HRD in India: Issues and Options

This section discusses the above issues related to training institutions and the role of HRD in the context of the scenario in India. Not all HRD sub-systems are discussed, but we have selected those, which in our experience are some of the most critical issues related to HRD in forestry training and education institutions. We have briefly discussed the role of each HRD "issue", the prevailing situation in relation to this and some promising initiatives where relevant.
3.1 Evolution of the Forestry Training & Education Sector

Unlike some other countries, forestry education in India did not develop through a university system. One of the reasons for this is that ninety percent of the forests in the country are state owned and are managed by the forest service. Thus, forestry education in India, which began as an in-service programme for foresters, has largely continued to be so. The Forest Service was established in India in 1867 and early arrangements for training were made with forestry schools in Europe. For training of lower ranks and to undertake research, the Central Forestry School was started in 1878 at Dehradun. The Indian Forest College (IFC) was opened in 1938 to meet the training needs of superior forest service officers. After the inception of the Indian Forest Service in 1968, it also catered to the requirement of this institution. In 1986, the college was given the status of an academy and re-named the Indira Gandhi National Forest Academy (IGNFA).

Within the country, institutions imparting forestry education and training include the IGNFA for the Indian Forest Service, three State Forest Service (SFS) colleges and six Forest Rangers Colleges. In addition to these training institutions, the states or the provincial forest services also run over 40 forestry training institutions. In addition, there are also some institutions providing specialized training for in-service forestry officials. These include the Indian Institute of Forest Management, the Wildlife Institute of India and the Forest Survey of India.

It is only since the 1980s that some universities began offering degree courses in forestry. These numbers have continued to grow and today, about 25 universities offer graduate and post-graduate degrees in forestry. However, the linkages between the professional in-service forestry training and education institutions and the universities have always remained weak and in fact, have grown progressively weaker over the years.

3.2 Current status of forestry training and education in India

Forestry education and training in India has attracted a great deal of attention in recent years. A number of local, national and regional meetings have discussed the Indian system of forestry education, with foresters, educationists and researchers contributing to the debate (Stressy 1960, Kulkarni 1963, Lalit and Pushottam 1980, Ram Prakash 1982, Bentley 1985, Thakur 1988, Mutch 1991, Ray 1994, D.N. Tiwari 1997). The conclusions have been fairly consistent in recommending considerable changes in both the content and methodology of forestry education and training to keep up with current thinking in both forestry and teaching/learning approaches.

The forestry training and education system of the past had a powerful influence in fostering esprit de corps that cuts across the rank and file of the forestry service in the country. However, at the same time, the forestry training and education, particularly the induction training in different forestry institutions has been criticised as being "anachronistic, fastidious and classical in nature" (Ray, 1994). The curriculum in the past has been built around the concept of sustainable timber management and it has been slow to respond to changing priorities of the forestry sector.

However, changes in the forestry curriculum are slowly starting to become apparent within many forestry training and education institutions. Major curriculum changes were initiated in the IGNFA in 1994. On the Job Training (OJT) aiming at effective integration of practice with the theory along with increased emphasis on social, managerial and other technical skills (including computer application and GIS) have been given emphasis. Similarly, the WII curriculum dealing with professional wildlife management training now integrates emerging areas like EIA, Ecodevelopment, Environmental Economics and Application of Computers in Wildlife Management. Other forestry training institutions have also started to include more social skills and development related topics in response to the shift in the forestry sector towards participatory forest management.

However, a closer look at these changes shows that many are only "on paper". Forestry education and training is still heavily "biased" towards the "hard" sciences related to forest management and the social skills and developmental sciences are still seen as "add ons" rather than an integral part of the curriculum. The reasons for this are many and complex, including the lack of staff/trainers who can effectively teach these topics in relation to forest management. These problems related to an outdated curriculum are only one of the hurdles that prevent forestry training and education systems in the country from being more effective in meeting their role of both supporting existing forest management as well as driving the process of change in forest management.

Another factor that is essential to increasing organisational effectiveness and impact of forestry institutions and one that has had little attention until recently is HRD. The next section discusses the status of HRD in forestry institutions and recent initiatives related to this.
3.3 HRD in relation to Forestry Training & Education

As mentioned above, the effectiveness of forestry training/education institutions depends, to a large extent, on their ability to meet the challenges posed by the changes in the forestry sector. This requires a continuous process to develop the competencies of the people that make up the organisation in a systematic and planned manner. HRD can therefore be seen to play a pivotal role in the continuous and sustained development of professional forestry training and education institutions. However, the attention paid to HRD by these institutions in the past has been non-systematic, unplanned and inadequate. While the importance of giving a priority to HRD is being increasingly realised, systematic and comprehensively planned HRD interventions are yet to be firmly rooted in any of these institutions. Nevertheless, the experience available so far from a number of disparate interventions could be quite valuable in putting the whole issue of HRD in proper perspective. In conformity with our conceptual model, a range of HRD interventions are discussed under 3 broad headings: the individual, the organisation and organisational linkages and impacts.

3.3.1 The Individual Level

This section examines specific HRD issues and interventions that are related to and contribute to the development of the individual, or ensuring that the right individuals are selected in the first place.

Personnel planning & recruitment: Who are the trainers/educators and how are they recruited?

Comprehensive manpower planning followed by a rigorous recruitment process is at the very core of HRD interventions. When effectively carried out, it can help ensure that a competent faculty with the right mix of skills and competencies is hired to proactively respond to the changing needs of the forestry sector. The institutional mandate and the client’s requirements best define the number and type of faculty disciplines. Job descriptions based on these criteria and the competencies required for each job need to be clearly defined. Thereafter, the recruitment process must ensure that competent personnel of proven calibre are recruited to fill the positions. However, in most forestry education and training institutions, the manpower planning to undertake various jobs/roles in conformity with institutional mandates and emerging challenges can, at best, be described as a piece meal approach.

Often, the job descriptions and the competencies (KSA) required for various positions are inadequately specified and have not kept pace with the changes in the curriculum. This, combined with inadequate recruitment processes leads to the question of whether the institutions are recruiting personnel with the right mix of KSA and the experience required. Specific targeting and recruitment of women is still weak as can be seen from the ratio of men to women faculty in most of these institutions. In many cases recruitment policies are decided by the government as most forestry training and education institutes are also government institutions. This reduces the flexibility of institutions in changing and practicing forward thinking recruitment policies. There is therefore an obvious need for periodic reviews and updating of recruitment policies in the context of changing work environments and organisational objectives.

However, despite these problems, there are examples of good recruitment practices as well. Both IGNFA and WII incorporate on-the-ground experience and expertise drawn from field foresters, in addition to recruiting academics/scientists. The institutes therefore have a mixture of scientists/academics as well as forest managers on their staff. This is an important criteria for recruitment in forestry training and education institutions and having a number of faculty with "field experience" adds a great deal to the practical element of the training.

Until recently, as WII was relatively small, faculty were recruited based on personal knowledge about the people being hired. Before recruiting people on faculty positions, the prospective candidates were given the opportunity to interact with the institute’s clientele as well as with the faculty. This gave both the institute as well as the candidates an opportunity to assess each other and allowed an assessment not only of technical skills but also of attitudes and approaches. This policy has been effective in ensuring a good "fit" between the faculty and the institute.

Given the pluralistic socio-economic environment in which the forestry sector has to operate, today’s foresters require a good blend of technical, social and managerial skills. This being the case, many forestry training and education institutes need to further strengthen faculty in some of the emerging social and managerial disciplines] (the so-called non-science disciplines). Recruitment processes that focus on a wider field to address some of these emerging competencies need close attention. One option might be to enter into short term/ long term contracts with persons of proven caliber to address the areas presently being inadequately represented. Mutch et al. (1991) suggest that social science staff be recruited either as permanent faculty or on contract. Again, the institutes need to look further afield, possibly within NGOs and other development
organisations to access people with the relevant skills in these disciplines.

**Faculty Development: Building capacity of capacity builders**

A comprehensive faculty development process should aim at constantly assessing the competency requirements of different individuals to perform the jobs assigned to them effectively, and providing opportunities for developing these competencies. There are a number of different approaches that can be taken for this and three such approaches, i.e. training, TOT, study tours and mentoring are discussed below.

Training is the commonest element of HRD and faculty development. In fact, HRD is often used synonymously with training. Despite this, faculty training is very seldom used to its full potential. Comprehensive training needs analyses (TNA) of faculty are either non-existent or outdated and not linked to changing job descriptions. As the profile of HRD increases, there is a tendency to carry out comprehensive TNAs, the results of which are rarely implemented. Training that does occur is usually ad hoc and based on the initiative taken by individual faculty members themselves rather than as part of an overall institutional HRD strategy. There is therefore a strong need to develop and implement systems build around the concepts of competence based training for the faculty and staff of forestry research and training institutions.

While most training that does occur is usually focused around subject area specialisation, training of trainers (TOT) has not received adequate emphasis. Often individuals who may be recognised “experts” in their field are not necessarily good trainers. In fact, this might be one of the most important faculty development areas that can be identified today. Principles of adult learning are still rarely used in most training and education in these institutions and pedagogic approaches are still widespread. Recognizing the importance of TOT in forestry training and education, Mutch et al. (1991) state that,” a trainer-training programme should be mandatory for each of the newly appointed faculty members covering teaching methods, assessment, examining, communication systems, etc.”

Besides training, another commonly used approach to faculty development is study tours. This can be an extremely powerful tool for learning/development, in particular for changing attitudes and approaches which is extremely difficult to do merely through training. However, for a study tour to be an effective, faculty development tool, it needs to have the following elements: a) careful planning with clear linkage of objectives and the selected site; b) strategic selection of participants to ensure maximum learning/exchange; c) good pre-planning both within the institute with participants as well as with the on-site “hosts” to make sure that key questions issues are raised and understood before the trip; d) effective de-briefing sessions (during and after the trip) to share learnings, raise new issues and determine how lessons will be applied on returning from the trip; e) monitoring of the effects/impacts of the trip for a time period after returning.

Unfortunately, study tours have today become synonymous with “junkets” and are seen as rewards or incentives rather than as effective faculty development and learning tools. With the growing importance of forestry and conservation internationally, opportunities for overseas study trips have increased dramatically. Ironically, many of these trips are supposedly linked to studying participatory forest management, the application of which is often the weakest part in many forestry training and education institutions. Most study tours follow few, if any, of the principles mentioned above. Selection of sites and participants is often politically rather than strategically motivated. In-country study tours or trips to neighbouring countries where lessons might be most relevant are rejected in favour of overseas trips to “exotic” locations where issues and solutions are often not applicable in India. There is a great need to bring study tours back into the arena of faculty development and to be more stringent about how this approach is used.

**Box 1: Faculty development at the Wildlife institute of India**

Early assistance to the institute’s capacity building endeavor took place through an UNDP/FAO project over a period of 8 years beginning in 1982 when the institute was first set up. Having recruited staff from a wide pool of biological science and field management, the need to train them as specialists in the discipline of wildlife management was accorded a high priority. The scope for specialisation for individual faculty members was worked out keeping in view his/her research aptitude and potential teaching contribution. Overseas training provisions were carefully chalked out in consultation with the executing agency. The project implemented about 30 fellowships and study tours to enhance capacity building endeavors, helping the faculty to specialise in a given area of wildlife management in conformity with institute’s priorities and the individual’s career planning. A feature of the later part of the overseas training was it’s integration into a long term individual faculty development plan prepared jointly by the institute, the UNDP/FAO project and a United States Fish and Wildlife Service project. Forging such collaborative linkages between the institute and donor agencies led to long term staff development of the institute.

An important feature of this collaborative project with UNDP/FAO was the long-term posting of a number of external advisors to the institute. The posting of these advisors, unlike the more common short-term expert inputs, ranged from three to seven years. This led to continuity of input and an informal “mentoring” to existing and future faculty (many of whom today are early graduates of the institute who benefited from this approach) that has played a very important role in the formative years of the institute.

Another significant facet of the faculty development programme was the involvement of all the faculty members in field activities and practical
Performance appraisal: Improving competencies and capacity

The use of performance appraisal as an instrument to improve staff competence has remained a grey area. Like in the Government sector, performance appraisal in forestry training and education institutions has lacked a development-oriented approach and transparency. The staff reported upon are required to fill out an annual self-assessment in a given format. This is commented upon by his or her supervisor who in turn sends it to the reviewing and the accepting authorities for final agreement, with the supervisor’s observations and the acceptance of the annual confidential report. The system very strongly reinforces upward accountability, quite often at the cost of downward accountability.

These annual reports are used for promotions and the entire process is treated as highly confidential. Target setting is not done by consultations. A low priority is attached to training the supervisors who make the assessment as reporting officers. While some of the ACR formats have been made very elaborate in terms of the information that they contain, there is hardly any serious utilisation of the information presented therein. Only adverse remarks are communicated, that too often after good deal of delay, thereby negating the very purpose of the remark. Positive remarks are not communicated, reinforcing the absence of any motivational role of the system. More often than not, the system is used as punitive tool rather than for the purposes of HRD and performance improvement.

However, there is a growing realisation of the need to make improvements in the prevailing system of performance appraisal. A good performance appraisal system enables better communication between the staff being reported upon and the supervisor; clarifies the expected outputs and the results in an action plan (forward work-planning and target setting in mutual consultation); and, becomes a powerful instrument for performance improvement by identifying future training needs.

3.3.2 The Organisational Level

This section discusses some key HRD elements in terms of overall organisational climate that not only support and reinforce individual competence but also add to overall organisational effectiveness.

Improving internal communication: Listening for a change

Good internal communication within any institution is an important mechanism for change. The communication can and should take place at different levels including between and within peers and between supervisors and their staff. The open, transparent and supportive atmosphere created through an effective system of communication can improve learning, sharing, teamwork, effectiveness and the overall development of the faculty and the institution.

Currently, however, this is another area where there are a number of improvements that could be made. In many institutions, there is no real forum for constructive criticism that could lead to positive institutional change. Instead, much of the communication that does take place is negative and un-transparent. Part of the problem is the prevailing "culture" within many of these institutions of un-transparency, compliance, top-down management, fear of criticism and peer competition rather than collaboration. None of these are conducive to an open system of communication that could help change many of these characteristics. So, in a sense, the institutions are caught in a “chicken and egg” situation where the prevailing culture prevents good internal communication while good internal communication could itself help to change the current climate.

One way out of the dilemma might be to start with creating informal or semi-formal fora for communication that could then be scaled up and institutionalised. These could include regular in-house seminars, internal newsletters, electronic bulletin boards or informal gatherings to discuss topical institutional issues (such as the experience with conservation issues and problems in “real life”. The presence of field-oriented personnel of proven calibre heading the institute in its early phases, coupled with the availability of the external advisors mentioned above, helped in building a very strong field based learning environment for the newly recruited faculty.

On the job career development, field-based learning and overseas training of individual faculty members were used as key HRD tools to ensure competence of individual faculty member and the technical staff. The project also stressed the need to specify faculty roles and the key performance areas (KPAs) for each role so that the progress against the KPAs could be monitored at regular intervals by the Director and the Governing Body of the institute. It stated in unequivocal terms the need to monitor the investment being made in the faculty development programme. In the event of new recruits failing to develop expertise in a given area of wildlife science within a reasonable period, they should be asked to seek alternative employment and appropriate action be initiated by the Governing Body.

This strong focus on faculty and staff development programmes in the initial years of institutional growth has paid rich dividends. The institute today is comfortably placed in having a cadre of competent faculty, trainers, researchers and technical staff.
"Friday Forum" started by faculty at WII). However, none of this would work as an effective change mechanism unless there is support from senior management who see this as a positive development rather than as a threat.

**Teamwork: Increasing effectiveness and impact**

The collective thrust of a group of people working together as a team with clearly defined and agreed roles and responsibilities can dramatically increase the impact and effectiveness of an organisation. Effective teamwork also contributes greatly to the overall learning of individuals as well as the organisation. External credibility is also enhanced if the staff of an organisation are seen to be working together in a collaborative manner.

However, by and large, in most forestry training and education institutions, individualism is the norm. This is driven by the lack of institutional systems that could facilitate teamwork (such as clear roles, joint assignments, and collective responsibilities) as well as an inbuilt mode of competition rather than collaboration. The lack of effective communication mechanisms, as discussed above, also contributes to the lack of mutual trust, which is a barrier to effective teamwork.

Experiences from WII have shown that there are mechanisms based on emerging trends that can be used to facilitate teamwork. One of these is the increasing role of forestry training and education institutions in implementing externally funded "projects". This can help teamwork because many of these large and complex projects require inter-disciplinary teams for planning and implementation. A recent World Bank funded project requiring interdisciplinary research by WII in two Protected Areas in India demonstrated this quite effectively by helping to build and reinforce bridges across faculty disciplines. Such projects, therefore, can be used as "vehicles" for demonstrating the importance and effectiveness of teamwork within an institution. Recent curriculum revisions at WII that led to the development of "modular" courses have also reinforced teamwork in order to ensure effective training delivery.

**Incentives: A motivational force**

The old proverb that money makes the world go round, could, to some extent also be applied to the forestry training and education institutions when talking of incentives and motivation. However there is more than just money that is known to work equally well – such as a "pat on the back". Acknowledgement by supervisors of work well done could be a great motivation for staff to reinforce positive attitudes. However, by and large, forestry training and education institutions promoted by the state do not have a culture where such a 'pat' comes easily. The miserliness in promoting such a simple an act of acknowledgement usually cuts across institutional boundaries.

Individual/team awards are good incentives too, if properly administered. Although the forestry sector has long been using ‘awards’ to acknowledge individual excellence, this has not percolated down to the forestry training institutions. However, the danger is that awards not properly judged and administered could bring in criticism and frustrations. Again, it requires a good measure of transparency and sound criteria to make a judgement. Awards for teams rather then for individuals is new way of rewarding performance while minimising heartburn and fostering a team culture.

An important but usually not very effectively used incentive is capacity building. In many cases, the opportunity to develop further one’s own knowledge, skills and experiences is a powerful incentive to work towards the overall effectiveness of institutional goals. Therefore, carefully selected training opportunities and exposure trips.study tours can serve and be used as incentives as well.

Now back to the old proverb. Consultancy assignments, both individual as well as institutional, are starting to become more and more common in recent years. These can provide strong monetary incentives that motivate faculty members to be at the cutting edge of their profession. However, as has been found at a number of professional forestry training and education institutions, consultancies can be a double-edged weapon. Well-managed consultancies are known to promote healthy competition and bring in rich experience to an institute’s ongoing training and research programme while at the same time providing financial and experiential incentives to staff. On the other hand, unmanaged assignments can lead to internal bickering and jealousy and can vitiate the organisational climate considerably. A good and transparent system that lays down conditions for consultancies both at the individual and institutional level is essential to manage this emerging issue and use it as an effective incentive for improving individual and organisational effectiveness.

**Self-renewal: Looking back and looking forward**
Growing, growing and growing – this seems to be the current trend with many forestry training and education institutions. Do the institutions take the time to look back and see whether they are still doing the right thing right (or are they doing the right thing wrong or the wrong thing right). What could tell them that the track chosen earlier needs to changed or redirected in view of the changing forestry sector priorities and client expectations? What could drive home the lessons learnt from mistakes of the past and for doing things differently in the light of lessons learned? Self-renewal is about collective stock taking of all that is being done year after year. It is about diagnosis of the problems as the institutions cruise along. It is about revisiting mandates, goals, objectives and strategies and then designing correctives. In nutshell it is about institution building. Unfortunately, the forestry training and education institutions have remained too preoccupied with ‘action’ and hardly have thought about collective soul searching. Recently, the Wildlife Institute of India thought it fit to take a diagnostic plunge as part of an Institution Building endeavor (Box 2).

### Box 2: Institution Building Process at Wildlife Institute of India

The Wildlife Institute of India was set up in 1982 with the prime mandate of supporting field conservation through training, research and advisory services. Training in-service field managers in the precepts and practice of wildlife management has been one of the key activities of the institute over the last two decades. The institute also runs academic programmes offering post-graduate degrees Wildlife Management. The institute has carried out an impressive range of research, both fundamental and applied, to support the field of biodiversity conservation.

Over the years, WII has been able to carve out a niche for itself in the field of wildlife conservation both at the national level as well as in the South Asian region. While the over all growth of the institute has been impressive, contradictions in terms of role conflicts have also started surfacing. Notwithstanding the institute’s performance in the field of training and research, the expectations of the “clients” have, of late, grown by leaps and bounds. This made it necessary for the institute to re-assess its role and revisit its mandate. In 1997-98 the institute initiated a process of Institution Building primarily through an internal consultative process run through a series of workshops and meetings facilitated by an HRM consultant (Shrivastawa 1998). The process engaged not only the faculty, the management and the employees but also a range of other interest groups like the trainees, the researchers, the Master’s students and the local institutions.

The expectation of different interest groups from within the institute helped in redefining the role of the institute in the years to come. Various diagnostic instruments (Learning Organizational Profile, Organizational Ethos, OCTAPACE Profile; Organizational Culture Profile and Motivational Analysis of Organization-Behavior) helped in assessing the overall organizational climate and culture that might either support or hinder the institute’s endeavor to achieve its stated goals.

The findings and the recommendations arising out of the situational analysis and the diagnostic process coupled with the redefined vision, mission, goals and objectives helped in shaping the Institution Building Plan for the institute. The core activities namely training, academics and research were revised in the light of the stated objectives. Specific activities were listed to ensure the quality improvement of these activities in order to bring the total client satisfaction and meaningful achievement of institute’s goals.

HRD was agreed to be the most crucial element in realising the vision, mission and goals of the IB plan. There was agreement that the HRD system holds the key to support and strengthen the self-renewal process in the organisation to have continuous organisational growth, development and excellence. The HRD intervention were seen against the following subsystems:

Organisational culture - including team working, better communication across faculty boundaries, incentives and welfare activities.

Work subsystem - including role analysis and agreement over the key performance areas pertaining to various roles, annual and quarterly work planning, need to review the evaluative performance appraisal system in order to move towards development oriented appraisal system.

Career subsystem - including comprehensive manpower planning, review of the recruitment policy and the promotion policy as well as career development planning.

Training and development subsystem - including a comprehensive training policy covering all categories of the staff and training in both generic as well as in specialised competencies.

Elaborate implementation arrangements have been discussed within the faculty and staff to make the provisions of the IB Plan effective. One of the biggest challenges facing the implementation of the IB Plan pertains to leadership at different levels, which could spearhead the change process in a gradual manner by building agreements. Getting agreements has been the most tedious process, whether it pertains to HRD interventions or to core activities like training, research and academics. Recently, the plan has got the support of the governing body of the institute, which could bring stronger commitment on the part of the leadership at different levels to actually implement it.

### 3.3.3 Organisational Linkages and Impacts

Individual competence and a positive organisational climate can go a long way in helping forestry training and education institutions to realise their goals. Going beyond this, certain interventions can also increase overall organisational impacts in the forestry sector while at the same time supporting key socio-political processes like decentralisation and devolution.

**Maximising organisational impacts: Enabling partner institutions**

The role of some of the national forestry training and education institutions can be seen as “enablers” to
strengthen smaller state-level institutions. The country has more than 45 forestry training and education institutions, the bulk of which cater to the needs of forestry personnel at the ground level (the "front line" staff). The responsibility of running these institutions is vested with the state or provincial governments. National institutions like WII and IGNFA can play a critical role whereby they enable these sister institutions in discharging their mandate far more effectively. Box 3 gives an example of one such intervention.

### Box 3 Game Guard Training Institute Bandhavgarh, Madhya Pradesh

The Game Guard Training School at Bandhavgarh is the only training institution in the country that caters to the training needs of frontline staff in the field of wildlife management. The school suffered from chronic problems pertaining to the lack of motivated staff to run the institution. The curriculum designed for the institute decades ago had outlived its utility and required major revisions. Under the World Bank funded MP Forestry Project, the state Government of Madhya Pradesh (MP) seized the opportunity to revamp the training school and approached WII in 1997 to facilitate curriculum revision, conduct TOT in the identified competencies and assist in the pilot implementation of the newly designed curriculum. From the start, WII sought the assignment to be rooted in a strong collaborative culture by requesting the MP Government to form a core group of in-house state forestry personnel - a majority of whom happened to have been trained at WII. This core group and WII worked closely together to design a competence-based curriculum which to be run in a modular format. Each module was to be run by identified person or a team of personnel from the core group. TOT in identified areas was then conducted for the core group in order to reinforce the competence of the in-house personnel who were to function as the resource persons for the identified modules. A range of learning resources, including distance learning mechanisms were put in place to support pilot implementation of the new curriculum by the in-house resource persons. Pilot implementation of the new curriculum took place over a period of 6 months in 1998-1999, largely led by the core group members who took turns to run the modules of their choice. The role of identified WII faculty in the pilot implementation was to provide backstopping and to identify and discuss the lessons learned in order to facilitate initiation of corrective measures by the state forest department. The experience brought in a great deal of synergy. By the end of the pilot implementation, over 20 in-house resource persons anchored themselves as trainers and educators supporting curriculum implementation at Bandhavgarh school. The "ownership" of the curriculum planning and implementation process by the group of in-house resource persons helped in effective delivery leading to a high level of trainee satisfaction. Lessons from the pilot implementation are now being used to support similar endeavors in other states. The experience is also helping WII in redenefing its own role and in building strategies to reach a wider of clientele in order to maximise its external impacts.

### 4. Recommendations

From the above discussions based on experiences in Indian institutions, the following broad recommendations related to improving HRD in support of forestry training and education can be made. Ideally, all HRD interventions should be anchored within a comprehensive HRD plan that lays out the strategic thinking behind the interventions as well as the linkages between these. If such an HRD strategy is to be developed and implemented effectively, there has to be a broad buy-in from a cross-section of the institution and there should be commitment from across the board to see the implementation through. Numerous HRD strategies and plans that have been externally driven have failed to be implemented because of the lack of involvement and buy in from institutional stakeholders. Different approaches can be used to get this buy-in such as ensuring full participation during the development of the plan and appointing a core team for its implementation while giving out responsibilities to a wider group.

- **Recruitment:** The importance of field experience among forestry teaching staff cannot be over-emphasised. Given this, forestry education and training institutions should aim to ensure a mix of field-oriented forest managers and scientists among the teaching faculty. There seems to be a common weakness among these institutions in relation to faculty numbers and competence related to social and basic managerial skills, which are becoming increasingly important within the changing forestry scenario in most countries. There should be a concerted effort to look beyond "traditional" pools of expertise to recruit people with such skills (possibly within NGOs and development organisations). Recruitment processes should be made more flexible and de-linked from government bureaucratic procedures. Technical skills should not be the only criteria for selecting faculty and recruitment processes need to look beyond this at the candidate’s attitudes, behaviour, and approach to training and learning as well. The challenge for these institutions is to select individuals with the right set of values in addition to technical and social competence.

- **Faculty development:** The first element of faculty development is the need to have clearly defined roles and job descriptions. It is only when these are developed and accepted that development and capacity building of faculty within the context of these roles can be carried out. Training needs analysis of faculty needs to be an ongoing process that is continuously assessing the competence of the faculty in relation to their evolving roles. The TNA should also include mechanisms for implementation of the training including identification of appropriate institutions, timeframes, budgets, etc. If study tours and exposure trips are to be used as faculty development tools, they should be developed with clear objectives, careful selection of participants and adequate follow up.

- **Performance appraisal:** The performance appraisal system in state forestry training and education institutions needs a complete re-thinking and overhaul. From the present "evaluation" orientation, it needs to move towards a development-oriented perspective. The downward accountability of supervisors towards staff needs to be strongly underscored. Performance appraisal needs to be seen
as a key HRD instrument to build and reinforce dyadic relationship between the supervisor and the employee, being manifested through forward work planning and target setting in mutual consultation. It needs to be used as an instrument for performance improvement by identifying future training needs. All these elements should be built in while designing a positive development oriented appraisal system. Training of supervisors and employees in using such a system would be crucial for it’s effectiveness.

- **Internal communications:** While many forestry training and education institutions are quite good at communicating an external image, their own internal communication mechanisms continue to be weak. Senior staff and faculty members need to initiate a process of change by setting up effective communication mechanisms either formally or informally. The need for good internal communication that can provide constructive criticism needs to be taken seriously. For a should be created whereby communication can be facilitated both within faculty members and departments as well as between faculty and senior management/directors.

- **Teamwork:** Good teamwork across faculty disciplines and hierarchies is key to a healthy organisational climate in these training and educational institutions. Internal divisions among faculty and between faculty and senior staff are common, thereby weakening both the image and the impact of the institutions. Mechanisms need to be created which make it mandatory for faculty and staff to work together on joint initiatives.

- **Incentives:** All individuals need incentives to help motivate them and improve and enhance performance. Innovative mechanisms to provide such incentives need to be developed and put in place. Training and capacity building can be carefully and strategically targeted to work as incentives. Providing individual or team recognition through citations, awards or simply commendations should be put into practice. Consultancies can be seen as monetary incentives but need to be carefully managed so that they don’t become a disruptive influence on the organisation.

- **Self-Renewal:** Mechanisms for self-introspection and self-renewal should be put into place so that this occurs on a regular basis. There should also be flexibility to allow the institution to respond positively to the results of the self-renewal process. An important aspect of this process is the need for the staff and the institution to react positively to both the process and the recommendations arising from this. Often, the process is carried out mechanically, without institutional acceptance and, as a result, there is little or no follow up.

- **Maximizing Impacts:** Larger (national and international) forestry education and training institutions need to critically examine their role towards smaller forestry training institutions. Adopting a decentralised delivery mode by judiciously blending TOT, distance learning resources and active networking with provincial forestry agencies, can actively help to support and improve forestry training and education smaller institutions. This will help wider outreach and greater overall impacts of the professional forestry education and training institutions.

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Notes

1 Wildlife Institute of India, P.O. Box 4, Chandrabaní, Dehradun 248001, India (bms@wii.gov.in)

2 WWF, Padmini Nivas, The Mall, Mussoorie 248179, India (sejalw@vsnl.com)

3 IGNFA provides induction as well as in-service training to Indian Forest Service personnel who occupy key positions in the forestry sector of the country. It is also a forestry "education" institution that awards post-graduate degrees in forestry and forestry-related topics.

4 WII provides specialised education and training to in-service forestry and wildlife personnel on forest and biodiversity conservation related topics. It is also an education institution that provides post-graduate degrees to students on these topics. WII also runs short and long-term training that is open to non-government personnel including people from other countries.

5 Particularly those with a somewhat longer "history" of professional forest management.

6 In this paper, the term "foresters" is used generically and refers to professionals employed by the state to manage state-owned forest areas of all kinds – including Protected Areas.

7 These issues are not discussed in more detail as paper is not focused on progressive curriculum development and innovative training methodology. It is expected that this will be covered by other authors.

8 This includes knowledge, skills and attitudes in technical, managerial as well as human relation areas.