

The Need for Re-Orienting Planning Education in Bangladesh for the New Millenium

Golam Rahman

Introduction

Global mega trends including economic restructuring, migration, and environmental degradation have profoundly transformed the implementation and practice of planning laws. With the passage of time, the previous planning laws have been amended and new laws have emerged to cope with the ever growing trend of the mega cities. This reality needs to be accepted as well as reflected in planning education. To implement planning laws effectively, we must provide great emphasis on planning education. In a rapidly urbanizing country like Bangladesh, planning law is of vital importance for proper urban development so also is planning education. If we are not properly educated, we would not be aware of laws let alone implement them.

What is Planning Education

Since the 18th century, urbanization process with the industrial revolution has cast profound impact on human life and so-called '*Informatization Process*' in global scale based on the rapid advancement in the areas of science and technology, in particular ICT (Information and Communication Technology). The cities, as institutions for human settlement, and planning as a normative vision of the 'just and affluent society', are not free from the challenges triggered by those fundamental changes. Thus to incorporate such changes we need well equipped planners in our system.

Although forms of the challenge to different cities and urban planning might be different, a lot of similar concerns are rapidly emerging. To deal with those issues effectively, a cumulative and interdisciplinary approach regarding the field of planning education is needed. At the turn of both century and millennium, it would be meaningful to re-examine the diverse experiences in planning education system and prepare alternative courses of action toward the next century.

Introduction of Planning Education in Bangladesh

The Department of Physical Planning was established at The Bangladesh University of Engineering and Technology (BUET) in 1962 under the Faculty of Architecture and Planning to cater for the planning needs of the government and autonomous organizations. The academic program, however, began in 1969. It was the country's first ever educational program in planning. Initially the department offered graduate course leading to Master of Physical Planning (MPP) degree.

Education for planners was mostly directed to the needs of the country. The school's program was designed by expatriate professors in association with local experts. Subsequently the syllabus has been changed to meet the changing needs and the prevailing situations of the country. Though the department started under the name of Department of Physical Planning, it was later changed into the Department of Urban and Regional Planning (URP) in 1976.

Realizing the needs of planning education in Bangladesh, Khulna University initiated a four-year undergraduate program in Urban and Rural Planning (URP) Discipline in 1991 under the School of Science, Engineering and Technology. BUET also enunciated a similar degree program, Bachelor of Urban and Regional Planning under the Faculty of Architecture and Planning in 1996. Following the course, Jahangirnagar University launched similar Bachelor of Urban and Regional Planning degree program in 1998 and the class started in 2000. At present, these are the regular degree-offering departments in planning education discipline, which offer regular courses. Besides, the Department of Geography and Environment, both at Dhaka University and Jahangirnagar University offer a few courses in planning. The Department of Geography and Environment, Jahangirnagar University has also introduced M.Phil and Ph.D studies through research in urban and rural planning. The Institute of Bangladesh Studies at Rajshahi University also offers M.Phil and Ph.D degrees through research. The Centre for Urban Studies located in Dhaka is devoted to planning consultancy and research in both rural and urban sectors.

Key Issues in Planning Education

The following are a few of the key issues which should be considered while designing any program in planning education:

- Consistent demand for planners capable of identifying, planning and developing '*Knowledge Corridor*'
- A consistent demand for planning administrators in different governmental departments, municipal corporations and other corporate agencies.
- Increased need of physical planners with Training on fieldwork.
- *Advocacy Plan*, which can generate local support for planning proposals.
- Planners trained in preventive planning procedures in the fringe areas.
- In-service training of short duration or short term courses.
- E-planning and systems approach to planning based on information technology.

Knowledge Corridor

The '*Knowledge Corridor*' is the new term to describe the corridor identified by IT experts, GIS analysts, bureaucrats, educationists and planners. The corridor has viability if the availability of excellent technical manpower in planning related IT field with top grade engineers and IT experts can be ensured. Excellent infrastructures in the form of '*Knowledge Parks*' should also be introduced. Planning education must gear up this new horizon by integrating knowledge corridor and collaborative problem-solving approach

like Integrated System for Knowledge Management with its development and planning. The 'Information City', which has serial polarization of such centres, should be planned with the required ambiance. Planning education must deal and should be flexible towards covering such ideas as the 'Technopolis' (Pezzoli, 2005).

Planning Administration

Planning Administration can emerge as a new field of development, with planners placed as Chief Executive Officer (CEO) in different town development authorities. Although there exist certain departmental problems and lack of manpower, to some extent, planners are capable of playing this role. The present officials are not really suited for such kind of job. Introduction of a specific syllabus, which is based on working experience in such organization, can be the basis for future subject coverage of planning administration. We have to find out how the syllabus can be framed so that any town planner is able to respond quickly, positively and effectively from various administrative angles to issues in planning implementation and enabling legislation. In order to make the students more responsive to the requirements of the different departments, particularly in the Development Authorities, Municipal Corporations, Pourashavas, etc. education in planning administration is urgently needed. A two-semester exposure to planning administration, either through internship or a postgraduate diploma, is suggested initially. Administrator or manager will be the new role for future urban planner.

Physical Planning Procedure

Physical development planning has become a major needed skill for serving different autonomous development agencies as well as NGOs and government departments of town planning. However, the various agencies preparing require persons who are capable of plans ranging from the small housing scheme, neighbourhood unit and small satellite city to major works like development plan, structure plan, detail area plan, regional plan etc. They should be familiar with the formational aspects and new models. Field exposure and experience, both at undergraduate and postgraduate levels, could be included in the syllabus to improve the technical ability of students. Effectiveness of this field experience can be considerably increased if they work in on-going projects in the form of internship with Government or any reputed organization. Some of the areas which require strengthening capabilities are-

- Data collection procedures, information systems, GIS etc.
- Analysis and projection techniques relevant to current practices and project evaluations.
- Modeling and simulation techniques and testing procedures.
- Collaboration with private sector in implementation and procedures in splitting up the projects between consultants and the estate agencies.

These are other emerging areas, which are needed to be identified and used in the planning of the syllabus to cover the physical planning aspects in the profession.

Socio-economic Research and Research Methodology in Planning

Socio-economic research and research methodology are most important tools in planning education. A planner has to conduct research and extensive studies for various development projects in his professional career. So, he must have a sound knowledge on characteristics and methods of social research. He should also have clear perception about basic research, applied research, action research, formulation of hypothesis, data collection, data processing and analysis and interpretation. A planner should also have decision making ability from analyzed data. Through observation and survey, a planner has to realize the socio-economic condition, demographic condition and social and cultural norms of a community. This has been exemplified by the Geddessian hypothesis of "Survey-Analysis-Plan". So, special training on socio-economic research and research methodology should be included both at undergraduate and postgraduate levels of planning education.

Advocacy Planning

With constitutional amendments, planning has to be mandatory at all levels including the union and village level. The amendments must empower communities to participate in the formulation of plans and implementation at the grassroots level. Planning education has to be oriented to public participation process and its impact and use in plan implementation. Conservation of urban structures, precincts and zones, protection of hill slopes, flood control measures, infrastructure development and many other urban issues can be brought into focus by town planners, who can co-ordinate and generate public support for the issues.

Increasing roles of the NGOs, environmental groups and civil societies can be used as a tool in achieving planning goals and these are needed to be specifically covered in the syllabus of the terminal semester. A 'Sandwich Program', as exists in other branches can be incorporated in the final semester to improve the students' awareness of the professional needs. Many of the planning students wish to take further courses and study the roles of the NGOs and advocacy planning in particular.

Participatory Approach Through Advocacy Planning and Public-Private Partnership

Since the concept of Advocacy Planning has been discussed in the previous chapter, here we shall deal with its various components and their applications in planning fields. Advocacy planning has a long history but with the passage of time, many new concepts have emerged which has brought new vistas of planning for the welfare and well being of the community.

Engagement in social and community participation has inevitably brought citizens in closer contact with the institutions and processes of governance. Conversely, leaders of projects, programs and policy research initiatives have increasingly sought the voices and versions of poor people themselves. Where citizens have been able to take up and use the spaces that participatory processes can open up, they have been able to use their agency to demand accountability, transparency, and responsiveness from government institutions.

These moves offer new spaces in which the concept of participation can be expanded to one of 'citizenship participation', linking participation in the political, community and social spheres as shown in Fig. 1 (Cornwall and Gaventa, 2001).

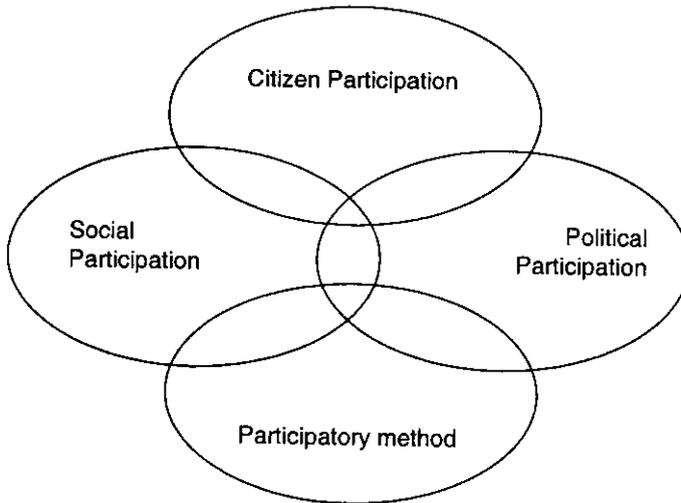


Fig. 1. Linking participation in different spheres.

"Public-private partnership" ("PPP") is a variation of privatization in which elements of a service previously run solely by the public sector are provided through a partnership between the government and one or more private sector companies. Unlike a full privatization scheme, in which the new venture is expected to function like any other private business, the government continues to participate in some way. These schemes are sometimes referred to for short as PPP or P3. Typically, a private sector consortium forms a special company called a "special purpose vehicle" (SPV) to build and maintain the asset. The consortium is usually made up of a building contractor, a maintenance company and a bank lender. It is the SPV that signs the contract with the government and with subcontractors to build the facility and then maintain it. A typical PPP example would be a hospital building financed and constructed by a private developer and then leased to the hospital authority. The private developer then acts as landlord, providing housekeeping and other non medical services while the hospital itself provides medical services.

Example:

Some International health care programs may be considered public-private partnerships:

- The Global Alliance for Vaccines and Immunization is financed upto 75 percent (US\$ 750 million) by the Bill and Melinda Gates Foundation, which has a permanent seat in the supervisory board of GAVI.
- As a UN agency, the WHO is financed through the UN system by contributions from member states. In recent years, the WHO's work has involved more collaboration with NGOs and the pharmaceutical industry, as well as with foundations such as the Bill and

Melinda Gates Foundation and the Rockefeller Foundation. Some of these collaborations may be considered public-private partnerships; half the WHO budget is financed by private foundations (Cornwall and Gaventa, 2001).

Preventive Planning Procedure

For those who are familiar with the fringe area growth and problems in metropolitan cities like Dhaka, Chittagong etc, preventive measures and controls are of greatest importance. Exposure of students to this aspect is of utmost importance. The primary concern is that there is no concrete plan as yet to develop infrastructure in these new areas. To begin with, these areas have grown haphazardly in the absence of strict civic administration. Major development in these areas presents a chaotic picture.

The fringe areas were preferred by small industries and manufacturing units and traders who were here basically to evade paying the high taxes and property taxes in the city. Absence of proper building bylaws and lack of enforcement by different law enforcing agencies, have led to unregulated growth of structures and congested housing in the fringe areas (Kanhere, 2001). A relevant example is the large scale encroachments of the river Buriganga and some other wetlands in Dhaka City. Absence of effective laws and slack implementation of the existing laws are the key reasons for such ill practice. The Wetland Ordinance has been promulgated only few years ago. Planners should also be involved in preparation of such legal documents. The preparation and implementation of a planning laws can prevent catastrophe during flood and earthquake disasters to some extent.

Information Technology Tools in Planning Education

Information technology is a broad term covering technologies developed for collecting, organizing, analyzing, sharing and presenting information in different forms. Computer is at the core of many IT developments and scope for its extensive use in urban planning and management is well documented. In addition, a variety of other products from telecommunication technology, sensor technology and microelectronics are now available, which in combination with computer would lend a valuable support to urban planning process. We have discussed here some of the important IT tools which would become indispensable in planning practices.

Computer Networking

Linking computers, located in different places tremendously extends the power of data processing and communication. Establishment of computer networks within the office of the planning authority called Local Area Network (LAN), and then linking these networks by what is called as Wide Area Network (WAN) would help in sharing the data available in different offices and also the processed results. For example, map and drawings related to Development Plan could be prepared under a standard drafting software package like AutoCAD and distributed across the network for planners and staff in other departments to update and add the information relevant for planning purpose. This would facilitate

working on the common digital database, and therefore, maximize time management and labour efforts. In addition, information on various court cases of set-back rules, compensation, betterment fees, land acquisition, etc can also be provided using common data-base management system (Dalton, 2001).

Remote Sensing

Satellite remote sensing and aircraft remote sensing are two major tools to capture spatial data about certain wide area. Satellite imageries are available in different scales. They are quite useful to perform time series analysis say, for land-use changes at macro-level and also in updating the existing maps without recourse to manual surveys. Aerial photographs, on the other hand, are quite useful for micro-level analysis and preparation of large-scale base maps which could be employed in several planning applications. Both sets of data can be obtained in digital form for further processing on computer. Space Research and Remote Sensing Organization (SPARRSO) can be the organization distributing these products within a framework of rules and regulations.

Geographic Information System (GIS)

Geographic Information System (GIS) is a powerful spatial tool which can help to inform the development of planning policies by overlaying statistical information with planning application details, development constraints and development plan designations. Development plans prepared on a GIS basis can be clearer and easier to understand than traditional methods and can support a more consistent style of presentation across the country.

The GIS is a special software, which integrates spatial and related attribute data into electronic code on computers. One can extract answers to his/her different types of queries on the organized database. Data are stored in different layers, and analysis can be undertaken for any combination of layers. Overlaying of proposals on the base map, for example, can give the total picture of the proposed development superimposed on the existing one. When processed with the remote sensing data, change in land-use both according to location and extent is easily obtained by GIS utilities. It helps in evaluating the likely impact of proposals amidst for their formulation. Standard GIS software also provides network analysis utility that could be applied to assess accessibility analysis useful for facilitating location decision. Advanced GIS packages have the capability to undertake three-dimensional analysis required for planning of road network in undulated terrain. Facility for user-friendly interaction for making query and flexibility in visualization and presentation of data are other distinct advantages of the specialized software (Selsing, 2004).

Web Based Technology

Proliferation of the use of the Internet in Bangladesh is very much on the cards. It means global accessibility to the data stored on the web sites, independent of physical location, is possible and the planning process can, therefore, be made more participative and

interactive in nature. Anyone can view the planning proposals and maps when accessed on the web site of the planning authority and register suggestions and objections, even on-line. Downloading permitted forms can also be facilitated through the website of a planning authority. Dissemination of information and delivery of certain services to the citizens can thus be simplified, expanded and expedited.

Expert Systems

One of the frontier areas of research in the field of computer science is known as 'Artificial Intelligence' (AI). Expert Systems (ES) is one such product, which can assist decision makers by applying a set of predefined rules within a logical framework. It is a computer system consisting of user interface, knowledge database of particular field or sub-field, corresponding knowledge engineering domain and inference engine. Any query made through user interface is processed on the basis of data and rules or algorithms of that subject stored in the knowledge engineering unit and inferences are drawn and weighed by the inference engine. The results are again displayed or conveyed through the user interface of the ES. Quite a few Expert Systems such as those in the field of medicine (diagnosis and treatment of certain diseases), chemistry (construction of molecular formula from spectral data) and geology (prediction about oil and minerals availability on the basis of geological data) are found useful in practice. Though the ES for urban planning in particular are yet to be made available, in future they are likely to assist in processing complex planning permission cases and thereby save on time and reduce subjective element (Pezzoli, 2005).

E-Planning and Development in Planning Education

E-Planning is a common approach to modernize planning service delivery through the use of the internet. The main objectives of e-planning are:

- To enable people to get involved in planning.
- To increase openness, efficiency and effectiveness.
- To arrange the delivery of planning service to meet citizens' needs.

E-Planning offers considerable opportunity for early and rapid change to the future delivery of planning services, with an emphasis on electronic delivery. This enables the provision of services to suit customer needs in a format, and at a time, most convenient to the individual.

There is huge potential to improve the planning service through better use and sharing of information. Information and Communications Technology (ICT) provides the opportunities, but they must be properly harnessed. A more consistent approach in using and presenting planning information can help to provide a better service to the citizen. In the longer term, sharing information should help to improve its quality. It should also lead to better-informed public involvement in planning, decision-making and investment (Sheling, 2003).

The planner, in the current information age, will need to know how to find, analyze and share different information modes and media. In the field of planning and development

the internet is a potent source of variety of information. On the Internet there are essentially three areas that provide planning information namely:

- Discussion Groups
- News groups and
- World Wide Web

Discussion Groups (Mailing Lists)

These are forums devoted to specific topics of interest and are usually moderated. To join a discussion group, one must subscribe using the protocol. The *CD4URBAN* list receives a lot of 'traffic' (numerous information) and is relatively free of 'noise' (unrelated information). In Bangladesh there is a discussion group of all graduate planners from Bangladesh University of Engineering and Technology (BUET), named 'BUET Planners' (*groups.yahoo.com/group/BUETplanners*). This forum is really active and such online discussion groups should be more practiced for planners of this millennium.

Newsgroups

These are forums open to Internet browsers, which do not require membership. There are two primary newsgroup sites for planning in the global scale namely *alt.planning.urban* (<http://www.news2mail.com/alt/planning/urban.html>) and *alt.planning.transportation*. Since they are unmoderated, they are susceptible to 'spam' (advertisements and unrelated postings). Both of the first two categories of planning information are ideal for queries processing (answering questions, requests, etc.) and sharing ideas and information. Two additional categories with more limited accessibility are Gopher, Archie, Veronica and ftp (file transfer protocol) sites and private on-line services such as CompuServe's LAWSIG Forum Message Area 10, and AOL's PLACES. As Internet usage increases, there will be larger markets to allow 'pay-per-view' services.

World Wide Web

The most dynamic Internet area for planners is the World Wide Web. Graphics, sound, video and hyperlinks (connections to related information sites) have made the web the true leading edge of the net. For general information, there is one site that is by far the most comprehensive: the Planning and Architecture Internet Resource Center (PAIRC) at the State University of New York School of Architecture and Planning, (<http://www.arch.buffalo.edu/pairc>). American Planners' Association (APA) site (www.planning.org) is rapidly growing and there is an area devoted to state planning statutes. The site has many downloadable documents and provides e-mail services for feedback. One of the finest planning sites is the California Chapter of the APA homepage (www.rain.org/calapa/index.html). The planning commissioner journal site (www.plannersweb.com) has information on a variety of subjects relevant to city officials and practicing planners. The website of Commonwealth Association of Planners (CAP) is another important site for planners (www.commonwealth-planners.org) along with the

website of International Society of City and Regional Planners (<http://www.isocarp.org>). The web dynamics change daily 'cobweb sites' are becoming rare and the web has taken on characteristics of a neo-biological system. Internet directories and lists are obsolete before they are printed. The answer to navigate the web for planning information is to use 'search engines' such as Alta Vista, Google and Yahoo. In order to get a specific aspect of planning, we can use multiple key words to locate web pages from around the world, and then follow links to other related areas, or email to the web contacts (Abramson, 2005).

Planning Education at a Distance (PED)

Planning Education at a Distance (PED) is an Internet based educational tool that provides planners, government and non-government officials with on-line urban and regional planning related continuing education opportunities. Through the integration of audio/video components, PowerPoint slides, and reading materials, the PED provides participants with hands-on training to strengthen skills needed to both manage land development through planning and bring new planning techniques to the community. Courses focus on current and emerging issues facing the planning community both local and global. The result is a web-based learning experience similar to the physical classroom but in a much more "on-demand" framework (Godschalk and Lacey, 2001) .

Internet Directory

Internet Directory in the Internet sites is of interest to planners which can be grouped under the topics such as, Air Quality, Economic, Environmental, Geographic Information Systems, Government, Housing, Legal Research, Legislation, Organizations, Planning, Population, demographics, and other statistical information, Transportation, and Water, etc.

Education and Training for Urban Managers

Incorporation of various management science techniques to address the management aspect of urbanization, housing, infrastructure and human settlement development, delivery and maintenance of urban services etc. is lacking in conventional degree / diploma courses offered in our country. Urban management, infrastructure planning and management are such complex issues, that they require a specialized degree course and training to get acquainted with the techniques and management science principles for solving varied and complex urban problems effectively.

Such courses are run by many institutions abroad, however, no such course is available in our country. Therefore, there is an urgent need of a well structured program in urban management to prepare young and talented planners as *urban managers* to undertake the challenging responsibilities in the local government, housing, urban development and infrastructure development agencies in both public and private sectors, to promote urbanization in the country in a healthy and prosperous direction, keeping in view the various factors and complexities of urban development. There is a need to start a new

cadre of professionals called 'Urban Managers', who can actually perform the management functions and manage our cities professionally and efficiently. The existing manpower (urban planners) in planning profession should be given proper training to enable them to re-orient themselves to a management role, which is concerned with 'plan implementation' rather than only 'plan preparation'. Training programs should be designed, keeping in mind the following aspects:

1. Establishing a closer link between training and live projects and programs, both to relate the training to organizational priorities and offer practical experience to trainees.
2. Training helps to develop analytical and problem solving skills, rather than concentrating on narrow text-book learning or professionally oriented standards and techniques.
3. Training is needed to re-orient professionals in management role, with a stress on plan implementation, rather than plan preparation only.
4. There are training implications in the development of the new approaches in management concerned more with enabling rather than direct provision. Such an approach requires the need for new skills in communication; response to and support for community and individual initiatives etc. Likewise, the shift to a greater role for market provision and contracting by government of services from the private sector requires new skills in evaluation, monitoring, quality assurance, etc.
5. There should be an increased concern with the output value of training programmes, rather than with just inputs (Kulkarni, 2001).

Sustainability Principles for Built Environment

In the field of planning education, planners must look carefully into the sustainability of built environment keeping as well legal aspects in mind. A detailed program in planning curriculum should be designed with the following in more specific terms

- From smallest hamlet to largest metropolis, from a small village tank to a large dam, from a single plant to largest forest, from a single individual to largest community, energy and its application varies. It is essential that it should be used judiciously in all respect.
- To effectively support its use, maximum elements and hierarchy of spaces used in the built / non-built forms must be conceived as multi-functional.
- Since growth and change is inevitable due to a changing social and economic conditions, overall form must be flexible to adapt to changing notions of traditions as well as future visions.
- For effective development, built forms should be conceived around community's life style and aspirations. Emphasis on institutional buildings as engines of growth should be the focus of planning.
- Communities thrive when there is a sense of identity and choices of expressions, hence allowance for its manifestations should form part of both structural and institutional planning.

- Similar to our traditional built forms, which encouraged individual expression within the community, planning framework must allow such freedom for a very positive interaction. Security encourages growth and participation. Therefore, all buildings or spaces should be considered as interrelated, cohesive and conducive to local lifestyle. For personal and group interactions, transitional elements should be provided to offer spaces and times for physical and psychological adjustments.
- Hierarchy in various activities and connectedness of residential, institutional and administrative buildings and spaces would harmonize and minimize a sense of discontents between individuals and communities.
- Individual aspirations and resources should be directed for personal identity within the overall community framework since culture and community organizations are forever and provide mainstay for community and society to grow progressively.
- Rapid changes in socio-cultural and economic spheres constantly modify our visions of future. To accept and absorb new visions, our built forms must have sufficient flexibility to upgrade infrastructure, modify forms and space without diluting the essential goals and values. This is the framework which must shape the nature of our habitat in the upcoming decades and well beyond that. It is now obvious that our entire future endeavor must be guided by the principle of sustainable development, through its precise articulation that will change over time (Dalton, 2001).

Emergence of IT Based City Planning and Urban Management Tools

GIS has emerged as the most useful IT based tool for city planners. City planning offices are now well aware of the power of the software for its ability to store, manipulate and analyze geographically referenced data and how it uses computer software to integrate such information for a variety of planning uses (Godschalk and Lacey, 2001). These uses may relate to terrain analysis, overlaying different data layers to identify areas with common or peculiar features, determining the optimum location of public services and facilities by providing information on population, base and trade area, providing spatio-temporal information, and host of other planning applications. For instance, storing, retrieving, and analyzing land use information and monitoring of changes over time have been greatly facilitated by the use of this technology (Ibid, pp. 481-482). GIS can be used for various kinds of impact analyses such as understanding the effect of a planned road on traffic pattern.

Moreover, the application of GIS for converting digital information into maps has immensely facilitated spatial modeling by combining its use with remote sensing which has emerged as an equally powerful tool for planners. At least, it can be used to establish a comprehensive urban and regional information system that will be of immense utility for planners.

The software that is highly popular amongst planners is AutoCAD since it has facilitated the preparation and manipulation of town planning drawings. Simulation software have also a variety of applications and are being used by planners for projecting implications of making changes in any number of variables and arriving at optimal policy decisions.

Besides, the use of IT-based applications in exercising development controls, intelligent traffic management systems, and people's participation and general matters of urban governance is increasing day by day. Matters of property transfer and issuing building permissions have now been eased in many cities to such an extent that such tasks could be performed in minutes rather than months.

Recently, a digital map of Dhaka City through aerial photography is being prepared (Salehin, 2004). It aims to help different utility agencies for better coordination among themselves and take up disaster management schemes more effectively. Such improvisation of urban information system can be useful to a number of agencies including Dhaka City Corporation (DCC) and 'Rajdhani Unnayan Kartipakkha' (RAJUK) for tax monitoring, identifying disaster prone zones etc.

With such system, people can e-mail their responses / feedbacks to the corresponding agencies. Again, global positioning satellites (GPS) combined with in-car receptors can allow vehicles to be charged wherever they are at rates that vary according to time of day and degree of congestion. In built-up areas and large cities such as Tokyo and New York, this technology is particularly effective for easing congestion because drivers do not have to stop to pay.

Applications in Planning Education

IT revolution has opened up various possibilities for making innovative changes not only in the content but also in the method of planning education. The basic change that students in planning schools experience is that the preparation of presenting drawings and textual matters has become highly time efficient. Their ability to communicate has increased immensely with increasing access to computer-based presentation tools such as multimedia incorporating laptop computer and LCD projector. Bullet point presentations aided by computer generated virtual images and various means of combining visual and written matter has become a powerful asset for the students for expressing themselves through bold and effective presentations. Emergence of GIS, remote sensing, and computer modeling as powerful tools for generating data systems, doing analysis, understanding city processes, monitoring changes over space and time, developing designs, and instituting efficient development control and urban governance systems has necessitated increased emphasis on learning of these skills by students. The syllabi of planning programs, therefore, need to be recast to allow for this emphasis to be built in the programs. One of the most important results of IT revolution, the Internet, has opened up entirely new opportunities for expanding and reorienting planning education. Since Internet makes it possible for students to have quick access to an ocean of knowledge on a variety of subjects, the goal of imparting planning education in a truly multi-disciplinary mould has become relatively easy to attain. Moreover, Internet has opened up opportunities for Distance Learning Programs. School of Planning and Architecture, Delhi (SPA) is participating in one such program on Public-Private Partnerships in Urban Environmental Services (PPPUE).

Distance Learning Course 2001 on Public-Private Partnerships in Urban Environmental Services (PL 2001 on PPUE)

This is an initiative taken by the United Nations Development Program (UNDP) to expand the use of public-private partnerships to address pressing environmental issues. They have collaborated with Yale University (USA) to develop a basic, internet-based, distance learning curriculum on the lessons learned from partnership experience to date. The specific focus is on using partnerships to improve the delivery of water, waste, energy and other local services in developing countries. The course material was tested in collaboration with the University of Western Cape (South Africa) and the Center for Environmentally Sustainable Technology Transfer (China). The course is part of the UNDP/PPPUE's efforts to develop a Global Learning Network, which fosters the exchange of best practices, and lessons learned during the development of public-private partnerships. This course is being implemented since the year 2001 through the Internet. It will help building capacities for public-private partnership development in Africa, Asia, Latin America and Eastern Europe and it will create an international network of distinguished institutions, which are united by the interest in using innovative approaches to achieve the goal of sustainable human development. Seventeen institutions including some Asian universities have agreed to participate in such a program.

In developing countries, especially in Bangladesh, there exists great mismatch in plan implementation and plan administration. It can be minimized by strengthening the legal aspects of planning laws in the curriculum of planning education. The advent of an IT based education which will enable planning students to obtain necessary information using a common database management can bring about a structural change in planning education. Besides, to move forward with the rapidly urbanizing world and implement the legal aspects of planning, our future planners must be equipped with different current technologies in the planning field. There must be appropriate training features available in the curriculum of planning regarding the present technologies related to planning laws. For compensation and betterment aspects, which form an important element in the process of plan implementation, the techniques of advocacy planning and people's participation are of paramount importance in the search of a better sustainable and functional city. Therefore, information on various court cases of set-back rules, compensation, betterment fees, land acquisition, etc can be provided using common data-base management system in our planning institutions operating in Bangladesh. It will provide fruitful outcome for planning process and also will provide planners an easy access for necessary information. Only then, we will be able to produce the planners, who will meet the challenges in this era of globalization.

Conclusion

The nature of planning has been to respond to the changes according to need and consequently its entry has preceded the practice of planning in some countries. Bangladesh has already experienced the high social cost as a result of unplanned development. Only planned developments may optimize the level of social benefits. An

increasing realization in this regard is now being made at the political and policy levels.

In the past, although there had been a regionalized need for planning, owing to weaknesses in the local governments and certain problems in the administrative setup, the need could not be transformed into effective demand for planning and thereby for planners. This has affected both the professional practice and academic training in the country.

For obvious reasons, the different professional opportunities will greatly influence the academic training. However, as planning is mostly a public sector activity, the professional opportunities in turn will be influenced by the development of the country's socio-political environment. Therefore, at this stage, it is difficult to envisage a definite shape of the discipline as well as of the professional practice. We should keep our mind open to accommodate any change reflected either in the philosophical area of planning or in the socio-political environment of the country.

References

- Abramson, Daniel Benjamin (2005), "The 'Studio Abroad' as a Mode of Transcultural Engagement in Urban Planning Education: A Reflection on Ten Years of Sino-Canadian Collaboration" *Journal of Planning Education and Research*, vol. 25, pp. 89-102.
- Auman, Sheling (2003), Application of E-Planning in Planning Education.
URL: <http://www.planningni.gov.uk.html> accessed on December 05, 2005.
- Cornwall, Andrea and John, Gaventa (2001), "Bridging the gap: citizenship, partnership and accountability", OED Working Paper Series: No. 11, February 2001.
- Dalton, Linda C. (2001), "Weaving the Fabric of Planning as Education" *Journal of Planning Education and Research*, vol. 20, pp. 423-436.
- Godschalk, David R. and Lacey, Linda (2001), "Learning at a Distance: Technology Impacts on Planning Education" *Journal of Planning Education and Research*, vol. 20, pp. 476 - 489.
- Kanhere, G. K. (2001), "Knowledge Corridors and Reorienting Planning Education", ITPI National Town and Country Planners Congress, 2001.
- Kulkarni, M. R. (2001), "Urban Management in the New Millennium – Some Important Issues and Concerns", ITPI National Town and Country Planners Congress, 2001.
- Pezzoli, Keith (2001), "Planning Pedagogy and Globalization: A Content Analysis of Syllabi" *Journal of Planning Education and Research*, vol. 11, pp. 71-89.
- Salehin, M (2004), "Dhaka City: Past, Present and Future", *The Daily Star*, July 28th, 2004.
- Selsing, Peter (2004), Computer Application in Planning
URL: <http://www.geo.ed.ac.uk.html> accessed on January 10, 2006.