

## 1. Overview.

The Technical University of Gdansk was founded in 1904 and, with more than 7,000 students, is one of the largest institution of higher learning in Poland. It is composed of ten autonomous faculties<sup>1</sup> and offers a five-year M.Sc. degree in the areas administered by the individual faculties as well as a Ph.D. and a D.Sc. Each faculty elects its own dean and overall governance is the responsibility of a Faculty Senate chaired by the Rector of the University. In 1991, the Faculty of Architecture asked USAID/Poland for technical assistance to evaluate its five year undergraduate curriculum.

A reconnaissance mission to Gdansk, on behalf of USAID, was undertaken in December 1991 by Professors Jerzy Soltan and François Vigier of Harvard University. The mission participated in a discussion of proposed changes to improve the professional skills of public and private sector architects and planners. Key issues that the Faculty of Architecture needed to resolve were identified in discussions with municipal planning staff in Gdansk and Gdynia, as well as with the Dean and Faculty. The mission's recommendations to provide more extensive assistance in the development of new courses offerings appropriate to the new institutional and economic climate in Poland were formulated on December 18 and 19, 1991 in collaboration with Dean Andrzej Baranowski (Gdansk Technical University), architects Mirosław Hryniewicz and Jacek Missima (Foundation for the Recovery of Cities), and Martha Sickles (Planning and Development Advisor, Peace Corps). Additional discussions were held in Warsaw with Mrs. Sonia Hammam of the Office of Housing and Urban Programs.

It was determined that the Technical University would benefit from the presence of educational experts to work closely with the Dean and senior faculty on the formulation of a new curriculum, including the design of new courses. A subcontract agreement was executed on March 9, 1993 between the International City/County Management Association and the Unit for Housing and Urbanization of the Harvard University Graduate School of Design to assist the Dean and Faculty in the formulation of a new curriculum, and in particular to :

- Examine the desirability of drawing a distinction between architects and planners by instituting professional specializations;

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<sup>1</sup> Applied Physics and Mathematics, Architecture, Chemistry, Civil Engineering, Electrical Engineering, Electronics, Mechanical Engineering, Hydrotechnics, Ocean Engineering and Ship Technology, and Production Engineering and Management. Additional courses are offered by a Department of Foreign Languages and an Institute of Economics and Humanities.

- Review the appropriateness of the current planning and architecture curriculum in the new professional context that is emerging in Poland; and
- Identify new course topics that would ensure the effectiveness of design professionals.

A Harvard team of four experts in the fields of urban planning, urban design, architecture, and real estate economics, working closely with faculty counterparts, undertook a critical assessment of the curriculum in order to identify possible improvements. As part of this effort, the following topics were identified as subjects for pilot courses of interest to both future architects and planners:

- The formulation of comprehensive development strategies, including regeneration of older urban areas;
- Assessing the economic feasibility of real estate projects; and
- Instituting joint public/private partnerships in development projects;

The non-credit short courses developed were attended by faculty, students and practitioners. This approach provided the Faculty of Architecture with an experience in which they were key participants, and which provided a model for the development of new courses.

An intensive review of the technical assistance was held in October 1993 and resulted in the formulation of a proposal to establish a one-year graduate diploma in urban planning that would institutionalize and expand the experience acquired in the previous Spring.

## **2. Summary of Findings and Recommendations.**

The Faculty of Architecture was established in 1945. With 618 students, it is of medium size, the largest being Mechanical Engineering (1,507) and the smallest Applied Physics and Mathematics (109). The five-year curriculum leading to the degree of M.Sc.Arch. adopted by the Faculty on September 15, 1993 consists of 3,750 semester hours of predominantly required courses divided among:

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|--|-------------|
| • General subjects                           | 2,250 hours |
| • Professional subjects                      | 330 hours   |
| • Environmental and cultural basis of design | 210 hours   |

- General technical subjects 600 hours
- Languages 240 hours
- Gymnastics 120 hours

In addition, short periods of intensive on-site practical training, ranging from one to four weeks are required of each student at various times during their studies.

The curriculum stresses technical subjects and includes both town planning and urban design as sub-elements of an architectural education. Admissions are made on the basis of the candidate's academic performance in secondary school supplemented, in the case of architecture, by an entrance examination in mathematics, foreign languages and drawing. The five year course of studies is free for residents of Gdansk while Polish non-residents pay a fee of \$130 per term. Foreign students pay annual fees ranging from \$5,000 to \$6,000. In addition, the cost of room and board is estimated at \$150 per month. A recently adopted revision to the fee structure imposes a fine of \$130 per term on students who fail a course and have to repeat it.

The general assessments of the four experts is that the School of Architecture possesses inherent strengths that can easily be developed to address professional issues raised by the new institutional and political climate. Its location in Gdansk, a vital and exciting city where a range of local initiatives are taking place, offers unique opportunities for closer relationships between the School and the planning offices of Gdansk, Gdynia and Sopot. The detailed recommendations described in Section 4 pertain to both structural and curriculum issues. They comprise both short- and longer-term components as structural changes may take some time to implement and will require the endorsement of generally supportive higher levels of the University administration.

*Institutional Aspects.* The evolution of the practice of architecture and planning in a market economy and decentralized institutional structure tends to assign specialized functions to these two disciplines. In future, architects will depend increasingly on private sector clients while planners will be engaged with various levels of government and, occasionally, with the development of privately financed, large scale projects. At present, there is little distinction between the two fields as architectural students simply take a specified number of courses in planning as part of their required curriculum. In due time, some of them may practice as "architect/planner" with inadequate training in the analytical techniques and decision making skills, largely grounded in economics, that are necessary in a national context where local governments are becoming dependent upon their own resources and compete to attract new

ones. There is therefore the need to rethink how these two disciplines are to be taught in order to ensure that each is to become competitive in the new Poland.

The School's ability to initiate curriculum reforms in a context that, in spite of dwindling allocations from the national government, is still perceived as largely dependent on the Ministry of Education as well as from the Consortium of Polish Polytechnics of which the Gdansk Technical University is a part, is dependent upon its ability to both conceptualize change and to seek new sources of funding and allocate resources efficiently within the context of a coherent development strategy. Two recent initiatives demonstrate that the Technical University and the School of Architecture are willing and able to undertake significant curriculum reforms: a Center for Environmental Studies, in which the School of Architecture is an active participant, was established in 1991 with funding from the Trans-European mobility scheme for higher education between Central and Eastern Europe and the European Community (TEMPUS). The second relates to the formulation, in the Spring of 1993, of a two-year graduate level urban planning curriculum as part of a proposed Center for Urban Studies. Even though the Faculty and the University administration have yet to act on this proposal, it reflects a rapid response to several of the recommendations made by the Harvard experts.

In the short-term, the educational coherence of the School would be increased significantly by fostering more collaboration among the existing teaching units composed of a senior professor (or "chair") and a varying number of other faculty into academic clusters sharing a common body of knowledge or activities. For example, a **Design Cluster** could be composed of the chairs in *Housing, Public Buildings, Health Buildings, and Industrial Architecture* to which *Interior Design* might be added in future; a **Visual Studies and Representation Cluster** could include the chairs in *Visual Techniques, Sculpture, and Painting* to which *computer assisted design* should be added; and a **Planning and Urban Design Cluster** would consist of the chairs in *Urbanism, Regional and Town Planning, and Architecture and Planning for Rural Areas* to which new courses in *development economics, project finance, project evaluation* and *sociology* would be added.

The concept of increased collaboration is key to the proposed development of an **urban planning curriculum** designed to address the challenges facing Polish cities as they assume their new role within a decentralized institutional structure and an increasingly active market economy.

*Short-term improvements to the curriculum.* Some of the proposed revisions to the curriculum can be undertaken immediately while others require the training of faculty to teach new courses. Using existing resources, the introduction of students to the various design disciplines would be improved through *core courses* in the first and second year, that is a series of coordinated survey courses, including improved courses in *architectural criticism*. Studio design projects should be structured to include new concepts and supported by reference material in order to enrich the students' design experience. The difference between simple design exercises that are incorporated in courses and more complex ones given in the studios should be made clearer to allow the students to budget their time more efficiently.

*Longer-term modifications.* The experimental courses offered in development economics and project feasibility analysis during this project indicated strong faculty and student interest. Their institutionalization will require the training of faculty before they, and other courses appropriate to the new institutional and economic climate can become part of the curriculum. The most cost effective approach will be to enroll interested faculty in short courses offered at institutions in the United States, in *development economics, joint public/private development projects, urban economic analysis, urban data management, and community based planning*.

The proposed two-year graduate level urban planning curriculum should be modified to make it accessible to public and private practitioners as well as graduate students. The October 1993 review of the project with the Dean and faculty indicated a strong interest in establishing a tuition paying one-year diploma program that would combine courses listed in the preceding paragraph with courses offered by the University's Center for Environmental Studies and problem solving workshops developed in collaboration with the planning offices of Gdansk and Gdynia. Even though start-up financing are required, it is expected that, once established, it could become self-financing through tuition revenue and the reallocation of University resources.

*The development of resources.* Adequate resource materials (journals, reference texts, and trade magazines) must be added to the library collection to support the instructional effort. Finally, a series of case studies demonstrating the application of key concepts *in the local context* should be developed for classroom use.

The following other short term improvements are also recommended:

- Modifications to the teaching spaces to foster a greater interaction among the disciplines and between faculty and students;
- Developing a working relationship between the School and private and public sector professionals in the Tri-city region; and
- Minor reorganization of the academic program and calendar to smooth out work-load peaks.

### **3. Description of On-site Technical Assistance.**

Three experts were fielded consecutively between mid-March and the end of June, 1993: Mr. James C. Canestaro, in the area of economic analysis and real estate development (March 15 - April 30, 1993); Professor Rodolfo Machado, for the architecture curriculum (April 30 - May 15, 1993); and Professor Alex Krieger in planning and urban design (June 12 - June 24, 1993). All three participated in extensive discussions with Dean Andrzej Baranowski, Associate Dean Marek Gawdzik, senior and junior faculty, and students. Public lectures were given by all three and mini-courses were taught by Mr. Canestaro and Professor Machado.

A full review of the status of the project was held in Cambridge on June 15 and 16, 1993 between Dean Baranowski and Professors Vigier and Machado. Progress was assessed and the main points to be included in the final report identified. The fourth mission, by Professor François Vigier (October 11 - 14, 1993), was used to review the draft report with Dean Wieslaw Anders, former Dean Baranowski, and senior faculty in order to formulate final recommendations.

**3.1 First Mission: Economic Analysis and Real Estate Development.** Mr. Canestaro arrived in Gdansk on March 15, following a briefing meeting in Warsaw with Ms. Sonia Hammam, AID Regional Housing and Urban Development Officer and Mr. Jan Kolbowski, AID Project Specialist. Following a series of briefings by the Dean and Associate Dean, a systematic review of the different components of the curriculum, and of student works, was undertaken in collaboration with the Faculty and Chairs of the following teaching units:

- Regional and Town Planning
- Housing
- Theory and History of Architecture

- Industrial and Marine Architecture
- Building Technology
- Visual Techniques (descriptive geometry, drawing, computer assisted design)
- Public Buildings

The nature of American undergraduate professional education in architecture and planning was discussed at length with the faculty as well as the integration of economics into the curriculum. Mr. Canestaro was asked to deliver a short series of lectures to demonstrate the application of economics concepts into a professional curriculum. Several faculty also expressed an interest in connecting the School to computerized academic and professional information sources.

A two-hour public lecture on introducing the principles of project feasibility analysis was delivered on March 24 to an audience consisting of the Vice-Rector of the University, the Dean, some ten faculty members and approximately 100-110 students. Questions and comments indicated that the concepts presented were generally understood and that the topic could be taught as a mini-course in English to interested faculty and students. An eight-session course on development economics and project feasibility analysis was organized and attended, on a voluntary basis, by an audience of twenty to thirty students, and three to six faculty members and outside professionals. (See Annex A for an outline of the course.) The course contents for these two-hour sessions was developed in collaboration with the Dean, Associate Dean, and interested faculty. Overhead transparencies of key terms and concepts were translated into Polish for use of the class and a limited consecutive translation was provided, as needed, for several of the students with no English proficiency. The participation of Professor Grzegorz Rzepecki in the course played a major role in its success and students were interested and motivated to learn how market economics affect architecture and planning. Student course evaluations indicated a concern that the knowledge they had acquired in the series might be lost without reinforcement in other courses unless its applications were incorporated in both design and planning studios.

Other activities conducted by Mr. Canestaro included:

- A review of the current computer resources of the School, computer course contents and student projects, and of plans to upgrade hardware, software, and instruction. Analytical software brought by Mr. Canestaro was demonstrated. Even though computer instruction is still limited, there is a capability within the School to support the introduction of such computer related topics as GIS, project management, and economic simulation analysis. Parallel meetings were



held with the City of Gdansk GIS unit and local representatives of the American Polish Home Builders Institute Foundation regarding the integration of GIS in Polish planning.

- Participation in the sixth term Town Planning laboratory and review of methods used in the United States to motivate industrial and commercial development in declining urban areas.
- Two briefing sessions on real estate economics and appraisals were held with faculty of the University's Economics Institute. The first session, on April 22, discussed three approaches used in appraising property: cost minus accrued depreciation; market value (comparable sales data); income approach (gross income multiplier, capitalization rate, discount rate). The second session, on April 28, covered methods of evaluating project feasibility, including value, rate of return, and risk tests, and the net operating expense statement and common problems associated with calculating net operating income. It was clear that the Institute's faculty was unprepared to contribute to the introduction of free market economics in the architectural and planning curriculum.

Following an assessment of his visit with the Dean, faculty and students, Mr. Canestaro returned to Warsaw on April 29. A debriefing was held at the US Embassy on April 30 with Ms. Sonia Hammam, Mr. Jan Kolbowski, Ms. Agata Litonska, and Dr. Mona Serageldin, Associate Director of the Unit for Housing and Urbanization and Professor Machado.

**3.2 Second Mission: Architecture and Urban Design Curriculum.** Building upon the activities of the first mission, Professor Machado focussed on the architectural and urban design curriculums and participated in numerous meetings with faculty and with students, who sought his criticism of their projects. He found the students intelligent and highly motivated and he acceded immediately to their request to organize a short urban design workshop for them. His evaluation of the curriculum and pedagogy was less sanguine. Generally, the School seems to suffer from:

- A lack of integration among the subject matters taught. Each cluster of professors appears to be operating as a semi-independent unit, responsible for both content and delivery of their segment of a curriculum that is very rigid, and consists primarily



of required courses. Significant quality differentials exist among the different units.

- Inadequate facilities result in teaching space being preempted by formal courses; as a result, the students do most of their design work at home, showing up largely for periodic presentations of their work to the instructor. They do not learn from each other and their morale, as a group, is low, as there is neither cooperation nor competition among them.
- Scanty library facilities: two small rooms under the roof are designated as a library but have few books, professional magazines and no slide collection. Although the University's main library collection is somewhat better, its stacks are closed and the students find it difficult to use.

Professor Machado's urban design workshop was attended by 20 students and ran from May 11 to May 12. The topic, selected jointly with the students, was the potential for development in the old city of Gdansk. The workshop, involving both organized topical discussions and sketches, started with a four-hour session (4:00 to 8:00 pm on May 11):

- A critical examination of the present state of the city, focused on its most significant elements: the riverfront and the "Royal Road" and its extension through Granary Island.
- The incomplete reconstruction of the city presented opportunities for the infill of vacant lots with new uses and buildings: tourist accommodations, hotels, parking structures that would enhance existing assets and make the city more liveable.
- A review of the existing situation and the city's likely prospects led to an agreement on the need to supplement the preservation of the museum-like old city with contemporary uses and building typologies.

Following these observations, the group worked together on the components of a master plan, which the students undertook to develop during the night. On the following day, from 3:00 to 7:00 pm, the workshop resumed with a critique of the work and a general discussion of

approaches to city design. The consensus of the students was that it was an intellectually exciting as well as a novel experience.

A well-attended series of three school-wide public lectures in English, entitled *What We Need to Know Today to Act Responsibly as Architects*, was presented by Professor Machado during his stay. The first, *Housing and Domestic Architecture*, was delivered on May 6 to an audience of about seventy, mostly students. It was followed by a discussion, led by Dean Baranowski who translated questions from the audience. The second, *The Architecture of Academic Institutions*, delivered on May 7, was attended by about 100 students and was followed by a lively discussion on the role of architects in market economies. The third, *The Architecture of Public Spaces and the City*, was delivered on May 11 and drew the largest audience, including members of the Gdansk Municipality team involved with the Granary Island Development Project.

Following meetings on May 12 and 13, when his reactions to the situation were shared with the Dean, Professor Machado returned to Warsaw. A debriefing meeting was held on May 14 with Ms. Litowska and Mr. Kolbowski.

**3.3 Third Mission: Urban Planning Curriculum.** Given the departure of Dean Baranowski for the United States on June 13, AID/Warsaw authorized Professor Krieger to proceed directly to Gdansk to allow for a dinner meeting with the Dean on June 12. Associate Dean Gawdzik served as coordinator for the visit.

An overview meeting with Professor Gawdzik and Professor Ewa Brach, Associate Dean for Student Affairs was held on 14 June, at which the schedule of meetings and lectures was finalized. Since classes were over for the summer and this was exam week, it was decided to schedule the public lectures the following Monday, Tuesday and Wednesday so that notices could be placed. A tour of the Faculty of Architecture facilities and a review of examples of student work was followed by a visit of the CAD Laboratory, a very rudimentary facility consisting of eight desk-top units for a school of approximately 500. In addition, each teaching unit shares one or two computers which are largely used by junior faculty. An introduction to computing is now part of the second semester studio. In part due to lack of equipment few students stayed with computer applications beyond this semester.

An initial meeting with Dean-elect Wieslaw Anders was held on June 15 and covered many curriculum issues:

- the extensive role of urban planning in the recently revised curriculum;
- the need to revise and simplify the curriculum and increase the number of senior faculty;
- the differences in educational system, curricula, and faculty qualifications and compensation between American and Polish schools; and
- the need for additional space and equipment.

During a series of informal meetings with students complaints were made about the rigidity of the curriculum, a lack of faculty contacts with students and evaluations of student work that came across as edicts, and the excessive peak of the work load at the end of the semester. Several students consulted Professor Krieger on the possibility of doing graduate work in the United States.

A second meeting was held on June 22 with Dean-elect Anders, his assistant Professor Chojnacki, and Associate Dean Gawdzik for part of the time. The potential continuation of this Harvard/Polytechnic collaboration was discussed and Professor Anders expressed his interest in subsequent steps, including receiving Harvard faculty for brief and even semester-length visits, and to find ways to send some of his younger faculty to Harvard for training sessions or teaching experience.

He also expressed his desire to create a graduate program in urban planning and design. This might well be an effective way for him to think about a very different way of teaching urban planning (to committed graduate students) while relinquishing some of his control over the undergraduate curriculum where urban planning is much stressed but much disliked among the architecture students. At a final meeting with Professor Anders on June 23, he once more expressed his interest in the next steps of this collaboration. He is most keen on Harvard helping him to think through and participate in the development of a graduate program in urban design and planning.

Three public lectures delivered by Professor Krieger were structured as a series on the practice of planning and urban design in American cities. The first, *Boston: Reconciling Preservation and Modern Development*, was given on June 21 and attracted an audience of 50 to 60 people, about one third of whom seemed to be students, with the rest either faculty or

members of the professional community. Great interest was expressed during the question period about the re-use of historic buildings and the redevelopment of the waterfront areas in Boston.

The second lecture, *Chicago: The Components of an Archetypal Modern City*, on June 22, was attended by about the same number of people, even though a smaller number of students were present due to final exams. Those in attendance did show much enthusiasm and a very spirited discussion about urban design and planning in a modern context followed. The final lecture: *Los Angeles: Lessons of Architecture and Urban Design from a Disaggregated City*, was given on June 23. The same devoted group showed up, plus a few more students clearly fascinated by what to them is the most exotic or fantastical American city. Many questions about Los Angeles and cities like it were asked following the presentation. Professor Krieger also showed some examples of his firm's professional work and that seemed much appreciated.

On June 24, a final meeting was held with Dean Baranowski who had just returned from the United States where he had spent two days at Harvard, meeting with Professors Vigier and Machado on June 15 and 16. The following issues, raised by Professor Krieger's visit, were discussed:

- Providing permanent studio space for the students.
- Encouraging an atmosphere of informal public discussion in the review of student design projects.
- Modifying the work load, particularly in terms of the number of design exercises students are expected to undertake concurrently.
- Reexamining the current structure of the various teaching units, which seem to compete for the student's attention.
- Reducing the compulsory parts of the curriculum and increase elective course work.
- Relaxing the often authoritarian and paternalistic attitude of faculty toward students.
- Tightening the schedule during the semester and firming up school-wide deadlines to limit student procrastination till the end of the term and attempting to do all their work in the weeks following the end of classes.
- Rethink the pedagogic objectives and scope of the urban planning and urban design components of the curriculum. There may be too much emphasis currently on these subjects without giving the students the benefit of theoretical courses which are an integral part of these disciplines.

On June 24, a mission debriefing with Mr. Jan W. Kolbowski of USAID was held at the American Embassy. He expressed an interest in thinking of the project as a pilot study which could be eventually expanded to other European Schools.

**3.4 Fourth Mission: Project Review and Assessment.** A draft final report was forwarded to the School in mid-September. Its evaluation of the situation and recommendations for short- and longer-term improvements to the curriculum and institutional recommendations were reviewed on October 12, 13, and 14, 1993 in a series of meetings between Professor François Vigier, Dean Anders and Professors Baranowski, Chojnacki, Szarcijko and Gawdzik.

Most key recommendations were accepted by the School, including the desirability of developing a structured core curriculum; the need to institutionalize the pilot courses offered by Mr. Canestaro (subject to securing the funds necessary for faculty training); the desirability of developing a one-year, tuition paying diploma program in urban planning; the usefulness of undertaking cooperative ventures with the Schools of Architecture in other technical universities. Other recommendations, although seen as desirable and worth striving for, were deemed to be of a longer term nature, including the proposed restructuring of the "chairs" into topical clusters.

Dr. Edmund Wittbrodt, Rector of the University was given a full briefing by Professor Vigier and Dean Anders on October 14. A mission debriefing meeting was held between Professor Vigier and Ms. Sonia Hammam in Warsaw on October 15, 1993.

#### **4. Assessment and Recommendations.**

The recommendations that follow include both short- and longer-term improvements. In some instances, they involve a redeployment of existing resources that should fall within the Faculty's powers. In other cases, new resources will have to be secured. Generally, specific recommendations which could be implemented in the short term are highlighted while longer-term recommendations are discussed in more general terms.

**4.1 Overall assessment.** Architectural and planning education in Poland offered by the nine technical universities (Cracow, Warsaw, Wrockaw, Gdansk, Guwice, Poznan, Lodz, Byalystok, and Szczecin) is still largely dependent on the Ministry of Education. The effects of this centralization, perceived or real, seems to result in a lack of differentiation among the academic programs offered by the various schools. In the case of the Gdansk Technical University, it is only in the last years that initiatives such as the creation of the Center for

Environmental Studies, in which the School of Architecture is an active participant, have become possible. The Center, established in 1991 with funding from the Trans-European mobility scheme for higher education between Central and Eastern Europe and the European Community (TEMPUS), offers short postgraduate courses of eight-week duration. Developed in cooperation with the Roskilde University Center in Denmark and the Free University of Berlin, the number of courses has grown rapidly and were combined into a one-year master degree program in academic year 1993-94. Other initiatives sponsored by the School include an exchange program with the School of Architecture in Vilnia (Lithuania) and, in the Spring of 1993, the formulation of a two-year graduate level urban planning curriculum as part of a proposed Center for Urban Studies. Yet, however praiseworthy, these initiatives have not yet capitalized upon the locational advantages offered by the tri-city region of Gdansk, Gdynia and Sopot, each of which is undertaking innovative urban management programs and with whom little effective contact has been established to date. The consensus of the Harvard team was that effective curriculum development will require building upon the assets of the School, University and the tri-city region. The supportive climate for innovation at the level of the central administration of the University offers a unique opportunity to strengthen the School and improve the teaching environment.

*Strategies for immediate improvement of the School's institutional image include:*

- *Propagation of the Faculty's activities, including a yearly exhibition of their design work.*
- *Form an alumni association to support the School and open employment opportunities for graduating students.*
- *Organize student design competitions with other schools of architecture, in Poland and other countries.*
- *Exhibit the best recent work by local architects.*
- *Organize periodic lectures by Polish architects.*
- *Undertake architectural and planning public service activities in the Tri-city Region.*

The School lacks a recognizable spatial definition. It is difficult to develop a positive sense of "working community" when there are no buildings, rooms or spaces to associate it with. The Faculty of Architecture is located on the fourth floor of the most emblematic and prestigious building on campus; yet, there is little sense of the School's life and products within the ample halls and corridors of the building. This perception is widely shared by students: there is no studio working space for them within the building (with the corollary of low student morale, isolation, and absence of positive competitiveness) and, with the exception of the laboratories, access to the building and to Faculty rooms, is restricted. Permanent studio space for the students would give them an opportunity to interact and utilize their time more efficiently as they waste much of the day waiting between courses with no place to do their work.

*Creating a physical identity for the Faculty is symbolically important as the physical evidence of change. The School should have a recognizable "territory" that will distinguish it from the other faculties.*

- *A dedicated work place should be provided for each student, particularly for the First year and Diploma students. Since all work does not require a large drafting space, some combination of shared studio space and individual study carrel would be sufficient for the intermediate students.*
- *The library space and collection should be expanded and its hours of operation lengthened.*
- *Permanent exhibition space should be created in the halls and the corridors.*

In the longer term, the Faculty of Architecture should have the power to allocate faculty time between teaching and sponsored research and initiate innovative pedagogical experiments, including continuing education courses aimed at practicing professionals.

**4.2 Recommended Improvement to the Architectural Curriculum.** The term "Technical University" underlines a *humanistic* orientation that correctly emphasizes the cultural aspects of architecture and urbanism, as opposed to the sciences. Regrettably, the present curriculum does not clearly reflect this distinction. The problems of the current curriculum can be summarized as follows:



- Its overly tight structure does not allow enough elective courses and students cannot pursue specialized skills or technical interests;
- Its theoretical and conceptual components need be strengthened;
- The emphasis on building technologies requirements creates an intellectual environment similar to the one found in civil engineering programs and does not allow a proper distinction to be drawn between architecture and urbanism; and
- It lacks a number of important topics for professional practice in a market economy.

Significant improvement to the current curriculum can be achieved within its overall structure: emphasis on design laboratories, exposure of all students to the discipline areas and the final diploma project. Changes can be woven into each of these major instructional components. For example:

- The difference between simple design exercises that are incorporated in courses and more complex ones given in the studios should be made clearer to the students to allow them to budget their time properly.
- Studio design projects should be structured to include new concepts and supported by reference material in order to enrich the students' design experience.
- The introduction of students to the various disciplines should be done by a series of coordinated survey courses that would give them a basis to use their elective credits to later develop a specialization in one of these areas.
- Finally, a healthy competition can be fostered by awarding citations to top diploma projects and displaying the best in an annual publication.

*In the short-term, a core program is needed to establish a foundation in the first year and prepare the students for the classes regularly taught in each of the disciplines. The core must be taught in an intellectually seductive fashion, the basic message being: these are the conventions on which the practice is founded; they are arbitrary and can be either adopted or criticized relative to one's values.*

*Other short-term curriculum improvements can be achieved through:*

- *Restructuring the academic calendar to smooth out workload peaks and enforce project due dates; and*
- *Evaluating studio work in diploma projects through a jury system including, when appropriate, distinguished local practitioners.*

In the longer term, a distinction might have to be drawn between the fields of engineering and architecture, each with its own curriculum in order to make time available to offer more elective courses.

A more significant restructuring of the curriculum may be dependent upon creating a greater interaction among the teaching units as their current independence makes them compete for student attention rather than offer a structured comprehensive understanding of the profession. For example:

- The chairs in *Housing, Public Buildings, Health Buildings, and Industrial Architecture* could be regrouped in a **Design Cluster** to which *Interior Design* might be added;
- The chairs in *Visual Techniques, Sculpture, and Painting* would form a **Visual Studies and Representation Cluster**;
- The chairs in *Urbanism, Regional and Town Planning, and in Architecture and Planning for Rural Areas* could become the core of a **Planning and Urban Design Cluster** to which new courses in *development economics* and *project finance, project evaluation* and *sociology* would be added.

**4.3 Establishing a Diploma Program in Urban Planning.** The difference between architecture and urbanism need be recognized and reflected explicitly in the curriculum. They are disciplines in their own right, and each is supported by a series of technical courses. While a required introductory planning or landscape architecture studio is sufficient to introduce the students to these disciplines, the training of effective urban planners requires some restructuring of the School's approach.

The approach recommended is that the general courses described in the proposed planning curriculum developed in Spring 1993 be offered as a *pre-professional specialization* within the architectural curriculum and that they be supplemented by a **one-year graduate level diploma program in urban planning**. The major thrust of this new program will be to introduce state of the art training in planning in Poland. It would simultaneously prepare students having completed their M.Sc. in Architecture for public and private sector careers and offer practicing professionals the opportunity to obtain the supplementary training necessary to address practical issues facing the country's cities.

The program should build upon the experience acquired during this project which indicated strong faculty, student and professional interest in the topics of *development economics* and *project feasibility analysis*. These experimental courses should be institutionalized and more advanced courses developed in *professional practice* (including project feasibility analysis), and in *urban economic analysis*, *geographic information systems* and *urban data management* should be developed, the last two in cooperation with the City of Gdansk planning office. A keystone of the program will be the development of case studies illustrating pertinent local issues to be used in problem solving workshops.

In order to meet the twin objectives of training graduate students and practitioners, as well as permit the University to strengthen its faculty, it is recommended that this one-year program charge tuition. In addition, its pedagogical structure must be designed so as to allow the attendance of practitioners, by focussing on evening courses and short, intensive full-time problem solving workshops.

The Tri-City Region, and particularly Gdansk offer a unique laboratory for the development of courses accurately reflecting the new dimension of professional practice in Poland. The formalization of a relationship between the School and local authorities should be attempted as an efficient means to improve the curriculum and share resources. For example, Gdansk is currently in the process of developing an innovative GIS data base for property assessment and, at a future stage, planning. Collaboration with this project would be mutually advantageous and provide an opportunity for applied research for faculty and advanced students. In addition to addressing specific planning, urban design and architectural issues in the Tri-City Region an active involvement would strengthen the School's presence in the area. Developing strength in a specialized area, such as geographic information systems would distinguish it from other schools in Poland and help attract promising students as well as allow it to develop continuing education courses for professionals.

Newly trained faculty of architecture specialists could launch a series of initiatives of benefit to the city and professional community: case studies on actual projects in the Tri-City Region would show the impact of the free market economy on the planning process, provide a checklist of key factors to be assessed, and graphically illustrate the key decision steps needed to implement projects. A discussion of alternative concepts, evaluation comments by key public and private participants and the final recommendations for action would enrich the value of the case studies for both students and professionals. The analysis and dissemination of essential market data would be another important contribution.

The funding of research projects to collect critical building cost, market competition, and project operating revenue and expense data could be of great value to the community and fellow professionals. Drawing upon data collected by municipal geographic information systems operators, faculty could begin analyzing and producing spatial map data which is so essential to economic development. Classroom projects to produce these spatial maps could be a part of upper level regional and town planning laboratories.

The lessons learned from their advanced training and field research work could then be organized into professional continuing education courses. The objective of these one and two day courses would be to introduce advanced planning concepts and available information resources to other professionals.

Outside funding will be required to launch a diploma program in urban planning

- Faculty selected to teach in the new program need familiarize themselves with the technical subjects that will be taught. The most cost effective approach is to enroll them in short courses offered at institutions in the United States. For example, Harvard summer programs offer a variety of short courses; the Urban Land Institute's summer National Real Estate School includes a number of one-week courses; and the Massachusetts Institute of Technology's Real Estate Program has intensive one-month courses.
- Some initial outside assistance will be required to teach technical courses and lend credibility to the new program, particularly from the point of view of practitioners.

- Adequate resource materials (journals, reference texts, trade magazines, and computer software, including geographic information system software) must be added to the library collection to support the instructional effort.
- A series of case studies demonstrating key concepts in the local context should be developed for classroom use.

**4.4 Development of Other Resources.** The current condition of scarce economic resources is a key problem that will manifest itself, pervasively, on faculty salaries, the library, space, and equipment until the the Polish economy improves. At this point, funding support from the national government is not keeping pace with annual inflation. The situation has forced faculty to "moonlight" to supplement their incomes with a resulting loss of academic focus. Instructional materials are not up-to-date; there is inadequate laboratory space for each student, and financial support is lacking. There is a need for library resources which address development economics and western land development philosophy. This might be addressed by soliciting donations of reference books by the American Institute of Architects, the American Planning Association, the American Society of Landscape Architects, and the Urban Land Institute. The lack of funds has also prevented faculty from pursuing research and advanced training opportunities. External financial aid will be required until the economy improves in order to undertake significant curriculum improvements for:

- Professional training courses;
- Graduate student financial aid;
- The acquisition of equipment and library material; and
- Discretionary funds, controlled by the Dean, to provide faculty stipends to develop new courses, improve teaching methods, and conduct research.

Providing faculty with financial support to undertake research projects relevant to the curriculum would decrease their dependency on outside jobs for additional income, generate the needed commitment of faculty time to support curriculum reform, and increase the visibility and influence of the School. The cost of this funding would be modest, given current salary scales for university faculty in Poland.

Improvements to the physical plant, particularly computer resources, will be necessary to enable faculty participation in research activities. The School of Architecture has started

addressing the place of computers in architecture and planning education. The CAD laboratory is producing quality student work with a limited number of up-to-date computers. A few other machines are kept under lock and key in individual faculty offices. It is essential that students develop word processing and spread sheet skills in a laboratory designated for this purpose. The architecture faculty have done an admirable job of assembling a variety of commercial software programs. These should be supplemented by custom application programs designed by American schools and individual professionals. A variety of spreadsheet and data base programs can easily be assembled for use in Poland, after the necessary translation.