MONGOLIA HUMAN RESOURCE DEVELOPMENT AND EDUCATION REFORM PROJECT

MONGOLIA

MASTER PLAN

Prepared for the Government of Mongolia by
The Ministry of Science and Education
and The Academy for Educational Development

Support for this activity was provided by the
Asian Development Bank with financial assistance from
The Japan Special Fund

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Prepared by:

FOR THE GOVERNMENT OF MONGOLIA:

Dr. B. Enkhetuvshin, Director General, Science and Technology Department, Ministry of Science and Education (MOSE) - PROJECT DIRECTOR

Ms. Ts. Undrakh, Division of External Relations and Cooperation, MOSE - PROJECT COORDINATOR

Mr. R. Bat-Erdene, Postsecondary Education Department, MOSE - PROJECT COORDINATOR

Mr. J. Sukhbaatar, Principal, College of Business and Commerce - CONSULTANT, BUDGETING AND FINANCE

Ms. B. Oyumaa, College of Business and Commerce, ADMINISTRATIVE ASSISTANT AND TRANSLATOR

FOR THE ACADEMY FOR EDUCATIONAL DEVELOPMENT

Dr. D. M. Windham, Distinguished Service Professor, University at Albany, State University of New York (TEAM LEADER)

Dr. F. N. Kemmerer, Associate Professor, University at Albany, State University of New York

Dr. W. A. Stuart, Dean Emeritus, Rutgers University

PROTECT ADVISORY COMMITTEE

Mr. Ts. Chimidregzen, Assistant, Standing Committee for Education, Science, and Culture, State Great Khural
Mr. B. Nanzadorj, Officer, Ministry of Finance
Mr. D. Tsedenbal, Officer, National Development Board
Ms. B. Onortsetseg, Officer, Ministry of Labor and Population Policy

OTHER KEY RESOURCE PERSONNEL

Dr. D. Badarch, Rector, Mongolian Technical University
Dr. R. Bandii, Deputy Director, Institute for Educational Development, MOSE
Dr. S. Batkhuyag, Director General, Pre-School and General Secondary Education Department, MOSE
Mr. P. Batrinchin, Officer, Postsecondary Education Department, MOSE
Dr. J. Batsuur, Member, Standing Committee for Education, Science, and Culture, State Great Khural
Mr. Ts. Batsuur, Director General, Administration Department, Mose
Mr. Ch. Buyanjargal, Officer, Economics and Social Welfare Department, MOSE
Dr. N. Begz, Director, Institute for Educational Development, MOSE
Dr. B. Demberel, Chairman, Standing Committee for Education, Science, and Culture, State Great Khural
Dr. D. Dorj, Rector, National University of Mongolia
Mr. P. Dorj, Head, Education Board, Ulaanbaatar City
Mr. B. Ganbat, Director General, Economics and Social Welfare Department, MOSE
Dr. B. Jadamba, Vice Rector, Pedagogical University
Dr. N. Jadamba, Senior Vice Minister, MOSE
Mr. B. Namkhaijantsan, Head, Department of External Relations and Cooperation, MOSE
Mr. D. Puntsag, Deputy Director, Postsecondary Education Department, MOSE
Mr. J. Tseveendorj, Officer, Department of Economics and Social Welfare
Dr. N. Ulziikhutag, Minister of Science and Education
Dr. D. Vanchigsuren, Senior Researcher, Institute for Educational Development
Mr. J. Yura, Officer, Postsecondary Education Department, MOSE

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PREFACE

The Human Resource Development and Education Reform project members would like to extend their strong appreciation to all those who supported their work during the preparation of the EHR Master Plan report. Special gratitude goes to Dr. N. Ulziikhutag, Minister of Science and Education, for his valuable advice and encouragement of the team's work. Similarly, special appreciation is extended to Professor N. Jadamba, Senior Vice Minister of the Ministry of Science and Education. The Project working team would also like to express its gratitude to Prime Minister P. Jasrai for meeting with the team, personally receiving copies of the Sector Review and Master Plan, and for sharing with us his views on the priority that should be accorded to social sector development and the leading role education must take in Mongolian society. His personal kindness and professional support are equally appreciated.

The work of the team was greatly advanced by the excellent design originally created by Dr. A. Konishi of the Asian Development Bank. Both consultants and counterparts gained from the discussions held with Dr. Konishi during his visit to Ulaanbaatar to participate in the review of the draft Master Plan at the National Workshop and Donor's Briefing meetings.

The process of development of this document involved recurrent meetings with large numbers of individuals in the Ministry of Science and Education, other government ministries and agencies, the private sector, and among embassy and donor organization staff. At the end of this report is a list of the individuals who met with team members during preparation of the BHR Master Plan and the previously prepared Education and Human Resource Sector Review. To all of them goes much of the credit for the insights gained by team members. Sincere appreciation is extended to each of them for their patience, dedication, and consistent collegiality and professionalism.

During the earlier Sector Review process, Minister Ulziikhutag and Dr. Konishi both noted that the real value of the Sector Review was in serving as a foundation for the development of this Master Plan. There is, in fact, no way the Master Plan exercise could have been completed successfully without the strong foundation of the Sector Review. The two reports exist as companion documents and it is anticipated that both will receive wide distribution and use and it is hoped that they will effectively promote Mongolia's goals of economic growth and continued social development.

21 December 1993
Ulaanbaatar, Mongolia

EXECUTIVE SUMMARY

1. The nation of Mongolia is in the process of a difficult and often frustrating transition to a democratic and free market society. The structural adjustments necessary for this transition can have disproportionate impacts on the education and human resource (EHR) sector if the sector's key role in the transition is not carefully articulated. Serious damage to the present education and training systems could even cause a decline in public acceptance of the structural adjustment process itself. Both EHR reform and aggregate economic adjustment are necessary; the challenge is to find a means to harmonize their processes and their effects.

2. There currently is great debate, both within government and among international donors, concerning the relative importance of the EHR sector in Mongolia's development strategy. Some feel that there was a relative overinvestment in the social sectors, including education and training, during the socialist period, and that the transition to macroeconomic reform and infrastructure development implies priority for the EHR sector. Others assert that the past investments in education and training are largely irrelevant for the emerging needs of a democratic society and a free market economy and that new investments in training, retraining, and the development of high-level manpower (including managers and administrators) are mandatory. This Master Plan, and Sector Review upon which it is based, is an attempt to assure that the judgments made about the appropriate role of the sector in the development effort are reasoned conclusions based upon the best available information, not assumptions based upon unsupported opinion or errors of fact.

3. The Mongolia Ministry of Science and Education (MOSE) with the support of the Asian Development Bank, conducted an Education and Human Resource Master Planning exercise between October 19 and December 21, 1993. This exercise was Part II of the Human Resource Development and Education Reform Project (Part I included preparation of the draft version of the EHR sector Review which was completed in July-August 1993). The goal of the present activity has been to produce a comprehensive Master Plan both to help guide the actions of the Mongolian government in the EHR sector and to provide clear priorities for the recruitment and use of external assistance funds. This planning structure attempts to identify the government's major EHR goals (derived from the broader national development strategy), to specify priority activities designed to accomplish these goals, and to provide details on the manner in which the activities themselves might be organized as projects. Throughout the Master Plan, the term *project* is used to designate a sub-set of an *activity* rather than a large, government-supported undertaking, as the term usually connotes. The development of this Master Plan is seen to be essential given the current manpower, institutional, and financial constraints faced by the government and the challenges posed for the EHR sector by the transition to a democratic and market-based society.

4. The Master Planning process qwas designed to be open and participatory. The critical contribution to the Master Plan came from the professionals in the EHR sector whose specialized and detailed knowledge was the primary resource upon which the Master Plan was developed. Also, individuals and agencies from throughout government and the private sector

were involved to elicit their priorities, and donor perspectives were solicited and incorporated at each stage of the Master Planning process.

5. The first step in any EHR Master Plan is to assess the internal strengths and weaknesses of the EHR system and its individual institutions and agencies, and to analyze the external opportunities and threats posed by changes in the social, economic, and political environments. This process of assessment and analysis was begun during preparation of the EHR Sector Review. It continued during the Master Planning process in two ways. First, individual departments and units with the MOSE and in other relevant government units (including finance and manpower) were asked to comment on the draft EHR Sector Review to assure that it represented a fair and accurate analysis of the current and anticipated conditions of the sector (a final version of the Sector Review will be prepared based on these discussions and distributed early in 1994). Second, the same program and institutional representatives were requested to review the list of policy and program options (presented here in the Appendix) developed in the draft Sector Review and to create their own more focused list of priority EHR activities.

6. The Master Planning team met frequently with all participants to assist in this work. A draft Master Plan was developed by mid-November and individual meetings, a Master Planning Workshop (November 25) and a Donor Briefing (November 29) were held. Following these discussions, a revised Master Plan outline was drafted and distributed. Following further discussions and review, a draft of the final Master Plan was prepared and served as the main focus of the National Master Planning Seminar held on 16 December 1993. The preparations for this seminar allowed for detailed debate on priorities, proposed activities, and the means of managing and financing the suggested implementation projects. The National Master Plan Seminar emphasized the implementation steps necessary to realize the individual projects. At the completion of the seminar the final EHR Master Plan for 1994-98 was developed.

7. The structure of the Master Plan includes a discussion of the linkage of Mongolia's EHR investments to its larger social and economic development goals; a statement of the context and goals for the EHR sector; a discussion of the 10 planning criteria used in selecting the areas of EHR activity and individual projects; and a list of priority activities (with discussion of the context and justification for their selection, and presentation of basic suggestions for the management, finance, and scheduling of the individual projects). Six major EHR activity areas were identified for the Master Plan:

- Preservation and Enhancement of Basic and General Secondary Education for Both Rural and Urban Populations;
- Reforming Higher Education to Serve National Development Needs More Effectively;
- Rationalization of Systems of Providing Vocational Skills;
- Providing Appropriate Learning Opportunities for Out-of-School Youths and Adults;
- Meeting the Needs for Improved Educational Management; and

- Increasing the Efficiency of MOSE Structures and Operations.

Each of these major activities consists of a set of priority projects to be conducted by the government (with or without external assistance). The description of each major activity area presents specific "Action Steps" necessary for realization of the project.

8. The Master Plan's timeframe covers the five-year period from January 1994 to December 1998. This is, however, a flexible and adaptive planning exercise. One goal of the Master Plan exercise is to develop a new planning methodology for Mongolia that emphasizes flexibility and adaptability over time to the changes that will occur in Mongolia's transition to a democratic, market-based society. The nature and effect of these changes are difficult to predict and the project selection process of the Master Plan has attempted to incorporate ample opportunities for innovation and adaptation. Also, it is believed that the EHR budgeting process should follow, rather than lead, the Master Plan process. Budgeting should occur as part of the detailed design of projects as they are selected by government for implementation with its own resources or in collaboration with donors.

9. The activity areas and projects listed in the Master Plan, while representing the priorities form the much longer list of options discussed during the development of the Master Plan, still exceed the government's ability to finance and its capacity to manage at this time. Each project has been developed so that some progress can be accomplished with current government resources and capacity. Similarly, each project has the potential for expansion if external financial and technical assistance is forthcoming. It is important, however, that the Government of Mongolia not postpone necessary reforms waiting for foreign assistance. Similarly, it is important for the external assistance community to recognize that Mongolia must take leadership in the EHR sector reform and to identify assistance that reinforces the government's own initiative. The people of Mongolia require and deserve and EHR system that serves their individual and collective needs; to provide them with such a system it will be necessary to forge an effective partnership between the government, its public and private organizations and individuals, and the donor community. This Master Plan is designed as a foundation step in the development of that partnership.

The following policy matrix offers an overview of the issues and the necessary actions presented in the Master Plan.

POLICY MATRIX SUMMARY OF MASTER PLAN

ACTIVITY I – ENHANCE BASIC AND GENERAL EDUCATION

ISSUE: BASIC AND GENERAL SECONDARY EDUCATION IS IN CRISIS	
PROJECT	**ACTION STEPS**
Encourage Alternative Educational Structures and Delivery Systems	Train rural teachers for multigrade, multisubject teaching. Resolve the issue of low teacher salaries. Reformulate policy on textbook production, distribution. Consider: # Improve MOSE printing capacity # Strengthen government printing press to handle textbooks # Turn textbook printing and publishing over to private sector Encourage DANIDA-sponsored work in curriculum, teacher/administrator education, instructional materials, special education
Make Design, Printing, Distribution, Use of Instructional Materials a Priority	Develop a curriculum materials program that also includes practical arts and nontraditional curriculum materials. Involve local schools, teachers, parents in designing locally relevant materials. Study manufacturing capacity of government. Plan for development of government and non-government printing industry. Make more and improved instructional materials a priority. MOSE and national Children's Center collaborate vis-<-vis books, radio and television programming, cultural opportunities for children.
Improve Use of Teachers	Review school structure and curriculum. Decide on grade level for teacher specialization. Encourage more interactive teaching methodologies. Establish incentive systems to reward and retain good teachers.

ACTIVITY II – REFORM HIGHER EDUCATION FOR NATIONAL DEVELOPMENT PURPOSES

ISSUE: HIGHER EDUCATION MUST RESPOND TO A RAPIDLY CHANGING SOCIETY	
PROJECT	**ACTION STEPS**
Rationalize the Role and Mission of Higher Education Institutions	Form Committee on the Rationalization of Higher Education. Clarify institutional roles and missions. Review, use agreed-upon classification of institutions Assess present and future student populations. MOSE and Office of Prime Minister provide data collection/analysis assistance. Committee should: Recommend consolidation of educational units, programs, etc. Establish guidelines for research centers/institutes and integration into universities. Consider a single national university. Establish standards guaranteeing quality faculty, programs, faculties, array of graduate/undergraduate programs.
Implement Reforms for Increased Autonomy in Higher Education	Council of Rectors (with National Development Board and MOSE) determine university enrollment projections and goals. Change to student-centered loans for universities of choice. Higher Education Rationalization Committee establish independent higher education institutions. Make entrepreneurship training a priority.
Enhance Efficiency of Higher Education	Create task force at each institution to recommend more efficient, cost effective organizational, programmatic, personnel, etc. systems. Develop, upgrade faculty resources (compensation, evaluation, exchanges, etc.) Strengthen academic programs. Publicize descriptions of faculty policies, requirements, etc. Develop procedures and minimum requirements for licensing education institutional and degree programs, procedures for accreditation. Establish accrediting association within the next five years. Institutions develop procedures for self-study and peer review. Improve library resources.
Strengthen Management Skills of Entrepreneurs	Create an organization to offer short courses in business. Chamber of Commerce arrange program to promote free enterprise. Expand MBA for proposed College of Business and Public Administration to include specialization in entrepreneurship, reduce lecture approach.

ACTIVITY III – RATIONALIZE SYSTEMS FOR VOCATIONAL EDUCATION

ISSUE: ECONOMY DEPENDS ON EFFECTIVE VOCATIONAL-TECHNICAL EDUCATION SYSTEM	
PROJECT	**ACTION STEPS**
Introduce Basic Skills Training into General Secondary Education	Develop vocational curriculum for grades 7-10. Identify, train teachers. Obtain supplies from VTE institutions.
Develop Postsecondary Technical Education	Provide legal basis for structural reform at postsecondary level for technical education. Give MTU authority over technical colleges and research institutes. Retrain faculty: Send abroad. Bring in visiting scholars. Establish exchanges with universities outside Mongolia. Improve facilities, equipment, libraries. Improve scientific communication among MTU, its system of postsecondary institutions, and international research community. Consider: International communications network. Electronic databases on CD-ROM technology.
Integrate, Privatize Vocational Training Outside General Secondary Education	Clarify MOSE's and MLPP's responsibilities for managing the training system. Inventory institutions and personnel. Decide on structure of the system. Convert unused facilities to other uses or privatize them. Assess education and training needs of business, industry, government. Train teachers to revise courses of study and develop training curriculum. Encourage institutions to provide students with orientation to work and careers. Ensure gender equity. Provide in-service training to vocational institution staff. Examine structure of formal workforce education for relevance.

ACTIVITY IV – PROVIDE LEARNING OPPORTUNITIES FOR OUT-OF-SCHOOL YOUTH AND ADULTS

ISSUE: OUT-OF-SCHOOL YOUTHS AND ADULTS WITH SKILLS IRRELEVANT TO THE NEW SOCIETY MUST BE EDUCATED AND TRAINED/RETRAINED	
PROJECT	**ACTION STEPS**
Deliver Improved Literacy, Numeracy, Lifeskills to Youths, Adults	Identify needs, mobilize resources. Design programs for youth, adults. Improve incentives for youth to stay in school. Prepare instructors, instructional materials. Initiate instruction. Conduct 2-year trial effort in rural *somons* to precede national dissemination.
Provide Information on Social Issues Through Nonformal, Distance Education	Establish national clearinghouse for nonformal education. Designate a distance education institution to link Mongolia with a "sister" institution with better resources. Create distance education taskforce. Conduct trial distance education program: classroom broadcasts, administrator and teacher training, home broadcasts on agriculture, health, citizenship, etc. Conduct costs/benefits evaluation of trial program.

ACTIVITY V – IMPROVE EDUCATIONAL MANAGEMENT

ISSUE: THE NEW SOCIETY REQUIRES SKILLS IN ADMINISTRATION, MANAGEMENT, FINANCE, AND LAW	
PROJECT	**ACTION STEPS**
Strengthen Management Skills Within EHR Sector	Consolidate resources to establish a single College of Business and Public Administration within National University of Mongolia. Offer programs, degrees in general, middle, and advanced management, with specializations. Arrange training programs for entrepreneurs, local officials, trainers, higher education officials, MOSE and other government officials.
Develop Accounting and Norm-based Budgeting Systems	MOF and MOSE collaborate on accounting format. Tailor forms to suite each institution. Adapt MOF accounting software to the new forms or select new software. Provide educational accountants with relevant hardware and software. Purchase scanners to read forms. Provide training for use of new forms and hardware, software. Require budget justification at all levels. Reward *aimags, somons,* or postsecondary institutions that reduce costs. *Somons, aimages,* ministries clarify basis for student allocations to primary, secondary, postsecondary institutions. Do not reduce government allocations to postsecondary institutions that raise funds to support expenditures. MOF and MOSE train education accountants in efficiency analysis. Develop manual for auditing institutional accounts. Amend tax laws to distinguish between profit and non-profit institutions. Amend the education law to address the issue of ownership of higher education buildings and land.
Reform EHR Finance to Promote Equity and Cost-Effectiveness	Draft regulations to limit *somons'* and *aimags'* ability to reallocate funds. Phase out current command system loan fund. Study direct student loan programs in other countries. Establish a direct loan program for students.

ACTIVITY VI – INCREASE EFFICIENCY OF MOSE STRUCTURES AND OPERATIONS

ISSUE: MOSE STRUCTURE MAY NOT PROVIDE THE MOST EFFICIENT AND FLEXIBLE USE OF RESOURCES FOR THE NEW EHR SYSTEM	
PROJECT	**ACTION STEPS**
Redirect Activities to Encourage, Evaluate Effectiveness of EHR Institutions	Make Inspectorate Board of Education integral part of MOSE; redefine its functions. Office of Evaluation Services introduce achievement testing nationwide for primary, secondary schools. Office of Evaluation Services collaboratively: Develop admissions testing, student evaluation for specialized areas in higher education. Design specialized achievement testing for bachelors, masters, doctoral degrees. Prepares academic criteria, performance assessment for programs of institutional and program accreditation.
Improve Information and Planning Linkages Between EHR Institutions and Employers	NDB make manpower forecasting less rigid. MLPP expand employer surveys to capture volatility of labor market. MOSE and universities prepare EHR institutions to conduct tracer studies of graduates. Coordination panel formed to disseminate information and encourage its use.
Restructure the MOSE	Create a National Education Council to advise the MOSE on policy, budgets, etc.; monitor, update the Master Plan. Clarify overlapping authorities between MOSE departments and local *aimags*, other ministries, and government agencies. MOSE continue to be organized under the Minister and Vice Minister, advised and assisted by various groups, councils, etc., and delegate certain authority. Reconstitute Minister's Council as Minister's Administrative Council. Academy of Sciences clarify its role in relation to new higher education system. Rename Department of Science and Technology Policy as Department of Science, Technology, and Research Coordination. Establish Office of Management Information Services. Establish new Department of Higher Education. Create a new Department of Education. Establish a Department of Personnel Service. Establish a reformed Department of Administration. Establish a Department of Public Relations, Communications and International Cooperation.

MONGOLIA EDUCATION AND HUMAN RESOURCE MASTER PLAN (1994-98)

PART ONE: INTRODUCTION

1. The Mongolia Ministry of Science and Education (with the support of the Asian Development Bank) conducted an Education and Human Resource (EHR) Master Planning exercise between the dates of 19 October and 21 December, 1993. This exercise was Part II of the Human Resource Development and Education Reform Project (Part I was the preparation of the draft version of the EHR Sector Review which was completed in July-August 1993). The goal of the present activity has been to produce a comprehensive Master Plan to help guide both the actions of the Mongolian government in the EHR sector and to provide clear priorities for the recruitment and use of external assistance funds. This planning structure attempts to identify the government's major EHR goals (derived from the broader national development strategy), specify the priority activities designed to accomplish these goals, and provide details on the manner in which the activities themselves might be organized as projects. The development of this Master Plan is seen to be essential given the current manpower, institutional, and financial constraints faced by the government and the challenges posed for the EHR sector by the transition to a democratic and market-based society.

2. The Master Planning process was designed to be open and participatory. The critical contribution to the Master Plan came from the professionals in the EHR sector whose specialized and detailed knowledge was the primary resource upon which the Master Plan was developed. However, both intrasectoral and intersectoral priorities were emphasized through involvement of individuals and agencies from throughout government and the private sector. Donor perspectives were solicited and incorporated at each stage of the Master Planning process.

3. The first step in any EHR Master Plan is the assessment of the internal strengths and weaknesses of the EHR system and its individual institutions and agencies and the analysis of the external opportunities and threats posed by changes in the social, economic, and political environments. This process of assessment and analysis was begun during the preparation of the EHR Sector Review report. It continued during the Master Planning process in two ways. First, individual departments and units within the MOSE and in other government units concerned with education and training issues (including finance and manpower utilization) were asked to comment on the draft EHR sector report to assure that it represented a fair and accurate analysis of the current and anticipated conditions of the sector (a <u>final</u> version of the Sector Review will be prepared based on these discussions and distributed early in 1994). Second, the same program and institutional representatives were requested to review the list of policy and program options (presented here in the appendix) developed in the draft Sector Review and to create their own more focussed list of priority EHR activities.

4. The Master Planning team conducted frequent meetings with all participants to assist in this work. A <u>draft</u> Master Plan was developed by mid-November and both individual meetings and a Master Planning Workshop *(25* November) and a Donor Briefing (29 November)

were held. Following these discussions, a revised Master Plan outline was drafted and distributed. Following further discussions and review, a draft of the final Master Plan was prepared and served as the main focus of the National Master Planning Seminar held on 16 December. The preparations for this Seminar allowed for detailed debate on the priorities, the proposed activities, and the means of managing and financing the suggested implementation projects. The National Master Plan Seminar emphasized the implementation steps necessary to realize the individual projects. At the completion of the Seminar the final EHR Master Plan for 1994-98 was developed.

5. The context of the EHR reform in Mongolia is characterized by four important changes. First, the government is becoming a partner with individuals, communities, and the private sector in financing EHR activities rather than the sole provider, which was often the case in the past. Second, there is increasing recognition of the need to separate essential EHR needs from those which are desirable but either not essential or not affordable. Third, the legal basis for all reforms must be carefully established. And fourth, the reform efforts must always be sensitive to the uniqueness of Mongolia's history, traditions, social conditions, and its economic and management capacity to implement reforms.

6. The structure of the Master Plan report includes a discussion of the linkage of Mongolia's EHR investments to its larger social and economic development goals; statement of the context and goals for the EHR sector; a discussion of the ten planning criteria that were used in the selection of areas of EHR activity and of individual projects; and a list of priority activities (with discussion of the context and justification for their selection, and presentation of basic suggestions for the management, finance, and scheduling of the implementation of the individual projects). Six major areas of EHR activity were identified for the Master Plan:

> Preservation and Enhancement of Basic and General Secondary Education for Both Rural and Urban Populations;
>
> Reforming Higher Education to Serve National Development Needs More Effectively;
>
> Rationalization of Systems of Providing Vocational Skills;
>
> Providing Appropriate Learning Opportunities for Out-of-School Youths and Adults;
>
> Meeting the Needs for Improved Educational Management; and
>
> Increasing the Efficiency of MOSE Structures and Operations.

Each of these major activities consists of a set of priority projects. The description of each major activity area specifies the critical assumptions made and the preconditions or concurrent reforms

required for successful implementation of the activity. The description of each project presents specific "action steps" necessary for realization of the project.

7. The Plan's time frame covers the five-year period from January 1994 to December 1998. However, this is a flexible and adaptive planning exercise; it is intended that in each future year the plan will be revised and extended by one year (for example, in August 1994, the 1995-1999 plan will be produced). The revisions will incorporate the progress made and the lessons learned in the time since the previous year's planning work.

8. It is important also to specify here what the Master Plan does not try to do. It is not a traditional centrally-directed five-year plan with elaborate detail and rigid time schedules. It also is not a budget plan. No indication is made of the levels of funding that will or should be made available either by government of the international assistance community. At the time of the plan's design, there was no certainty about the financial resources that would be available from either source. Rather, the Master Plan attempts to create a structure of priority activities and projects in the EHR sector and it is intended that this structure become the basis for discussions about EHR funding both within government and between government and individual donors and donor groups. One goal of the Master Plan exercise is to develop a new planning methodology for Mongolia that emphasizes flexibility and adaptability over time to the changes that inevitably will occur in Mongolia's transition to a democratic, market-based society. The nature and effect of all of these changes are impossible to predict and the project selection process of the Master Plan has attempted to incorporate ample opportunities for innovation and adaptation. Also, it is believed that the EHR budgeting process should follow rather than lead the Master Plan process. Budgeting should occur as part of the detailed design of projects as they are selected by government for implementation with its own resources or in collaboration with donors.

PART TWO: THE LINKAGE OF EHR INVESTMENT IN MONGOLIA TO SOCIAL AND ECONOMIC DEVELOPMENT

9. The purpose of this brief commentary is to provide an analytical framework to facilitate the discussion of the relationship that exists between EHR activities and non-EHR strategic development objectives for Mongolia at the regional and national level. The emphasis here is on the generic linkages of EHR activities to non-EHR projects and programs planned for Mongolia over the next five years. The goal of this discussion is to strengthen the ability to justify EHR activities as prerequisite or concomitant to most non-EHR projects or programs and to assure a greater probability of non-EHR successes by directing attention to the EHR requirements that play a key role in determining those successes.

10. Increasingly, policy analysts and project designers and planners have been under pressure to justify investments in education and training, not in terms of direct educational outputs, but rather by means of the effects of the educational outputs on larger societal outcomes such as economic performance (employment, wages, and productivity), social change (attitudes, values, and inclusion of disadvantaged populations), or political development (values, participation, and an informed acceptance of political legitimacy). In the terminology of the economist, there has been a shift from a concern with internal efficiency (the production of educational effects relative to costs) to external efficiency (the production of societal effects relative to costs). Some advocates of EIIR programs have seen this shift as a threat to financial support for education. Such individuals and groups oppose any challenge to the concept of education (or at least basic education) as a foundational human right. Such concerns are largely misplaced; in fact, greater evidence of the ability of EHR activities to promote larger societal purposes can protect the sector from erosion of present funding and serve as a basis of larger funding when the aggregate economic conditions permit. One must recognize that EHR programs and projects increasingly are in a very competitive situation both relative to other social sector activities (notably health and population concerns) and to larger societal initiatives in the political, economic, institutional, and environmental domains. To provide evidence of an EHR activity's ability to facilitate development in any one of these domains --to be an instrumentality rather than an end in and of itself -- is to strengthen the EHR sector's ability to serve its more traditional functions of individual development and social inclusion.

11. EHR projects often are characterized by relatively lengthy investment periods prior to the generation of their major benefits. Even in those training or tertiary education areas where employment may follow immediately, the EHR effects accrue over the lifetime of the individual or group, not immediately upon "graduation" from the EHR activity. The timing of EHR benefits, the uncertainty of their amount and incidence, and the variability of their form (financial, attitudinal, behavioral, etc.) all may lead to a bias against EHR investments if the investments are not linked to larger societal objectives.

12. The means of making this link is the *(implicit or explicit)* logical justification that supports an EHR project or program's justification. By making explicit the contingencies, the

concomitant conditions, and the assumptions of the EHR - non-EHR linkage, the justification for any EHR activity should provide an assurance of the probability of EHR benefits in terms of timing, amount, incidence, and forms. These probabilities then become the basis for justifying the investment in the EHR activities.

13. It should be obvious that no one can accept "education" or "training" as terms that describe any relatively homogeneous subset of activities. For policy analysis or project/program planning purposes these terms are practically meaningless. Only when they are operationalized in terms of the level and form of learning or training achievement and the number and characteristics of successful learners and trainees can a meaningful linkage to non-EHR activities be made.

14. The justification of EHR activities will exist in terms of the effect of the activities on the non-EHR domains of development. Basically six domains of such external effects exist: economic, political, social, cultural, institutional, and environmental. The list of *potential economic benefits* from EHR activities can be quite extensive. The most critical would appear to be the following: increased employment and earnings, enhanced general productivity, improved consumption behavior, facilitation of cost reduction or revenue enhancement in the private sector, improved fiscal capacity (through increased revenue and/or reduced demands on social services), and promotion of intergenerational effects in terms of better economic attitudes, motivation, and behavior among children and young adults. The political domain's effects can include specific political values and attitudes as well as more general changes in the way individuals or groups participate in the political process, development of a belief in democratic structures, adaptation to a rule of law, and evidence of an acceptance of the political legitimacy of the existing system. The last two effects can be critical in creating a level of political stability sufficient to allow economic and other effects to occur. Other political effects include identification with the nation and development of common beliefs.

15. Social effects relate primarily to the impact of EHR activities on group status or mobility. The extent to which social inclusion and participation are encouraged will determine the value of these benefits. A belief in the possibility of individual and group mobility can be an important determinant of social (and thereby national) peace and stability. Education and training are powerful vehicles for promoting such increased inclusion, participation, and mobility. Cultural effects. include the transmission of values, beliefs, and traditions within society. The role of language is an especially critical area of EHR impacts. The acceptance or encouragement of specific languages and other cultural forms is a topic that lends itself to both subjective and objective debate.

16. The effect of EHR activities on the institutional domain has not been as closely studied as, for example, economic, political, or social impacts. The major forms of institutional effects include improvement of institutional structures, enhancement of personnel capacities (not by training but by creating organizational structures that facilitate the use and further development of these capacities), encouragement of cooperation and coordination among development-related agencies or institutions, expanding policy dialogue and promoting an

environment for administrative reform, and strengthening informational resources and utilization to promote better decision making. Finally, recent years have seen an increased focus on environmental effects of EHR projects. Even with this recent emphasis, this remains the least discussed domain of EHR effects. There are three major forms of environmental effects: the promotion of environmental consciousness and action; the changes in energy utilization resulting from EHR programs; and the heightened demands on community facilities (e.g. roads, water, sewerage) because of EHR activities.

17. The use of this analytical structure to assess the linkage of an EHR activity to a non-EHR objective should result in the identification of one of five possible forms of the linkage. The EHR activity may be *necessary* (either a precondition or concomitant requirement) to the success of the non-EHR project or program, *complementary* (suggesting direct synergistic benefits), *supportive* (having a positive but not required or synergistic effect), *neutral* (no important effect, positive or negative), and *convicting* (implying competition at the margin either for critical resources or in terms of potentially conflicting outcomes). It is very important to realize that changing the characteristics of any EHR project or program can alter its domain of effects and also will probably change the nature, direction, and strength of the linkages. In appraising a specific EHR-non-EHR linkage, the planner must consider alternative forms of the EHR activities that might promote effects more supportive of specific non-EHR objectives.

18. This EHR Master Plan has been produced in the confident belief that the EHR activities proposed here for Mongolia are necessary, complementary, or supportive of the broader development needs of Mongolia. Similarly, it is believed that any development strategy that ignores proper preservation and enhancement of the EHR sector will fail to have social or political support and eventually will find itself seriously constrained by the lack of manpower and management skills that the EHR sector could have provided. A framework similar to that discussed above should be used to assess any proposed EHR implementation; if it is, the EHR reforms suggested in this Master Plan will be seen to be directly supportive of Mongolia's goals in each of the non-EHR domains.

PART THREE: CONTEXT AND GOALS FOR MONGOLIA'S EHR SECTOR

19. Under a command society, detailed policy decisions are made at the top of an implementing hierarchy and then successive layers of the bureaucracy are expected to design and enact plans to see that these policy decisions are translated into reality. Prior to the 1991 reforms in Mongolia, this was the case for the EHR sector. Decisions were made at the ministry level or above and it was the job of central and local staff to see that these decisions were implemented. Although this system often failed to function effectively (inadequately trained staff, communication and transportation difficulties, and the problem of imposing rigid rules within a very heterogeneous set of local environments were common constraints faced), the record of EHR implementation was largely a positive one Whether this former system of policy-planning could have succeeded under the unsubsidized national budget, the new demands of the market economy, and the enhanced local participation in decision making is debatable; what is certain is that the changes of the last three years have totally reshaped the responsibilities of the MOSE from that of an implementing agency to one whose goals and objectives need careful discussion before any major structural reform or large scale retraining of personnel takes place. The restructuring of the MOSE must take place within the context of Mongolia's broader development goals.

20. The government's macro-economics policy is to stop the economic decline and to stabilize economic conditions within the next two years taking into consideration the real situation within Mongolia, the peculiarities of the transition period to the market economy, and the nature of the external environments that affect Mongolian economic success. The national priorities are improved infrastructures for food and other agricultural production, mining, and the processing and industrial production activities. Education is to be recognized as a "social treasure." Children will have the opportunity for a primary education at government supported schools and all citizens under 17 will be provided with an opportunity for basic education. The option of private education will exist but proper safeguards will be established to protect social equity.

21. Planning goals for education include the reform of the education system by revision and modification of its content and training methods to meet the social needs and individual interests and talents of learners. Universal education in Mongolian script will be organized. The qualifications, working conditions, and living conditions of teachers will be improved. Vocational-technical education will be upgraded to the requirements of the market economy and instructional methods will be raised to international standards. Higher education improvements will be designed to ensure the integration of the institution's research, teaching, and production activities.

22. The macro-economics plan's educational concerns extend to the encouragement of individuals, institutions, companies, and other enterprises to create or finance educational activities and institutions. The Government will have the responsibility for assisting low income

families with the cost of textbooks and other instructional materials. Also, government will assist with the cost of meals in kindergartens and summer camps. These policies will need to be translated into specific plans and, as with all such intentions, these plans will be realized only to the extent that adequate funding exists for the EHR sector.

23. As part of the economic transition reform and of agreements between the Government of Mongolia and the International Monetary Fund, the National Development Board is charged with the responsibility for developing policies and plans to protect the social infrastructure during the period of the transition economy. As part of this process a concept paper on "Development of Social Infrastructures" has been drafted. This document identifies education as "the origin of the nation's future and of social development." It goes on to identify education's purposes as:

- establishing basic and secondary education and vocational education content according to world experience and Mongolia's specific development context;

- creating a reliance system of educational finance to meet citizens' needs;

- providing conditions for equal development of all educational institutions regardless of their form (public or private) of management;

- improving the capacity of educational institutions to engage in independent activities; and

- defining the direction of educational administration and of education-scientific-industrial linkages.

24. These five goals for education will be realized, of course, only to the extent that actual plans of implementation can be designed and financed. The social infrastructure paper does offer several very specific policy directions. These include:

- to provide primary education to all children under 17 years old through secondary schools, and other formal and nonformal means;

- to provide basic education free of charge;

- to encourage payment for vocational and higher education costs by the future employers of the graduates;

- to promote the transition to the principle that schools should provide part of their own financing, especially through enterprise development;

- to render social assistance to the children without parents and from economically disadvantaged families to permit them to benefit from education;

- to link more closely the activities of schools and economic enterprises; and

- to create the legal mechanisms (including reduction of taxes) for encouraging individuals, organizations, and companies to provide financial support to educational institutions.

These proposals provide a framework for maintaining a focus on education while making the shift to an EHR system more closely linked to economic requirements of the market and individual responsibility for a greater share of educational costs beyond the basic education level. The less certain issue is whether the MOSE in its evolving shift from an EHR delivery agency to a policy accreditation-monitoring agency can play a role in assuring that social interests in education and training are protected even as economic and political needs are being served.

25. The MOSE should be, of course, the key ministry responsible for policy in the area of education and training. The ability of the MOSE to fulfill this role has not yet been determined; the Council of Government Ministers and the State Khural should assure that the MOSE will have the personnel and other resources to meet its new responsibilities. In theory, the MOSE should serve as a nexus where information and opinions from other Ministries are collected and assimilated. Ministries such as Finance and Labor and Population Policy, and the National Development Board are important agencies in this regard, but any ministry or organization may make a contribution on EHR issues related to their sector or to the needs of its own staff.

26. The MOSE should also serve as the primary conduit between individual institutions and the higher levels of the policy making process. There may be difficulties in serving this role if the shift to local control of K-b education reduces the ministry's knowledge of and concern with this level of education. Also, in many countries, the postsecondary vocational-technical and higher education institutions are often not satisfied to have the ministry represent their view. In Mongolia this may mean the Universities and Colleges Council of Rectors, the Council of Vocational and Specialized Secondary Schools, or the Association of Private Institutions may prefer or even demand a direct role in approaching the State Khural or the Council of Government Ministers about EIIR policy. Finally, the MOSE also should be a link between the private sector and quasi-public organizations (such as the Commission on Higher Education Reform) on the one hand and the legislative and executive agencies on the other.

27. In November 1990 the bill "Concept on the Mongolian Educational Development" was approved, totally reforming the role of the ministry in the delivery and regulation of the EHR sector. The ministry's former authority to direct educational development was further reduced by the passage of the "Educational Law" of 1991. Article 3 of the law states that "education will be under the state sponsorship and control" and Article 13 says "the state authorities shall establish a basic policy on educational issues and the Government implements it." However, this sponsorship, control, and implementation authority does not flow primarily through the MOSE as would be the case in many countries. Rather, Article 7 gives individual

institutions the right to regulate the granting of educational certificates and Article 13 goes on to say that "Government agencies in charge of education in cities or rural places will be responsible for managing of educational matters."

28. The general authorities at the city/aimag, somon, and district and lower levels have been given the responsibility to:

- outline policy on education for all in-service and pre-service training and coordinate activities for implementing policy;

- establish kindergartens and general secondary schools and to modify or close them; and
- appoint school principals and discharge them.

The general duties of these same authorities are to:

- finance kindergarten and general secondary schools (as well as professional schools if located in the city or aimag);

- organize actions that will provide compulsory basic education for all; and

- institute local acts, laws, and regulations and to implement the related monitoring and evaluation activities and to be responsive to central authorities.

Obviously, this creates both serious new responsibilities and new opportunities for local governments. What has not yet been determined is whether any (or all) local governments have the financial, technical, and management skills to fulfill these new roles.

29. Article 14 does designate the MOSE as the supervisory agency for issues of postsecondary education and Article 15 says the ministry will approve the model of regulation of educational activities. The MOSE is also granted responsibility for the authorization of new institutions (Article 17) and to register and terminate educational establishments (Article 18). However, even where the rights of the MOSE are clearly established, enabling legislation will be needed to clarify these roles and adequate funding will have to be forthcoming for the MOSE to fulfill its planning role. The Cabinet Law of 1993 makes clear the responsibilities of the Minister of Science and Education (e.g. authority over the State Foundation for Training and the Nuclear Energy Commission, determining school establishments, setting the number of teachers, etc.) but does not help define the planning-administrative role of the Ministry of Science and Education.

30. The policy and planning relationships and responsibilities discussed here are still evolving and much remains to be defined. Some of the role definition will come about as part of legislation or regulation. However, in every country the role of an education ministry ultimately is defined by what the ministry wants to do (its goals and objectives) and what it is capable of doing (the skills of its staff and the effectiveness of its administrative structure). This EHR

Master Plan exercise is designed to help in identifying the MOSE's strategic and long term objectives, its need for new and/or upgraded staff, and the structural alternatives that should be considered to improve the MOSE's organizational effectiveness within the context created by Mongolia's stated goals and its evolving social and economic context.

PART FOUR: SELECTION CRITERIA FOR MASTER PLAN ACTIVITIES

31. In constructing a set of criteria specifically for selection of EHR Master Plan activities and subactivities (projects), it is necessary to begin with the final objective which the set of criteria are designed to promote: an integrated program of activities that are appropriate to the needs of Mongolia. The term "appropriate" refers to the fit of the activities' inputs, processes, and outcomes to Mongolia's intersectoral and intrasectoral priorities. The priorities themselves must reflect an appreciation for what Mongolia can afford and what it can manage. The activities and projects listed in the following section have been selected based upon ten criteria:

- Appropriate legal foundation and support;
- Flexibility in planning and implementation;
- Support for an interactive planning model involving cooperation among national, local, and institutional levels;
- Promotion of vertical and horizontal integration among institutions and programs;
- Intersectoral and intrasectoral coordination;
- Development of a regional emphasis;
- Affordability;
- Sustainability;
- Efficiency; and
- Encouragement of new resource mobilization.

Each of these criteria will be discussed briefly.

32. Appropriate legal foundation and support. It is the intention of the government to instill a rule of law rather than one of administrative fiat. To this goal, it is mandatory that the activities and reforms discussed here have a proper foundation in the Constitution and in the laws and regulations of Mongolia. In several instances conflicts exist between the various laws that govern the operation of the EHR system. This situation needs to be corrected and, where Master Plan proposals require new legislation, prompt attention should be given to discussion and debate

over these new provisions and the Minister of Education and Science be prepared to request the necessary changes.

33. Flexibility in planning and implementation. The EHR Master Plan is designed to encourage recurrent analysis and policy formulation. Planning steps should be reconsidered periodically (at least once per year) and adjusted to fit the emerging realities of the Mongolian environment. All project designs that are based on this Master Plan should incorporate phased implementation that will allow the project's activities to be slowed, accelerated, or redirected depending on resource availability and new competing demands.

34. Support for an interactive planning model. This Master Plan should become part of a more general reorientation of EHR planning in Mongolia. In just three years Mongolia has shifted from a centrally directed to a highly decentralized system of EHR management. This shift has created confusion and frustration about the proper relationships between authorities at the three levels of the system: the central government, the local governments, and the individual EHR institutions. An interactive planning model would have the central government issue broad planning guidelines; the local and institutional administrators would then respond with comments, criticisms, and alternative suggestions. The central authorities would then develop more detailed proposals and, following further review by local and institutional officials, the revised proposals could be implemented.

35. Promotion of vertical and horizontal integration. Much of the inefficiency found in Mongolia's EHR system is traceable to the underutilization of staff and facilities because of excessively small units of organization. Vertical and horizontal integration of programs can reduce this problem. An examine of vertical integration is the need to incorporate the activities of research institutes within the programs of the universities. An example of horizontal integration is the need for institutions in the same area to share facilities, equipment, and staff to reduce duplication and to control the need for new expenditures.

36. Intersectoral and intrasectoral coordination. The increased autonomy given to organizations throughout government has had the effect of fragmenting the planning process. All EHR activities, in whatever EHR subsector, should attempt to coordinate with the activities of other subsectors. Similarly, better coordination should be encouraged with activities outside the EHR sector. One possible example exists in the area of printing facilities outside the main cities. To be affordable, these facilities would have to be available to a variety of EHR institutions and to institutions or organizations in other sectors.

37. Development of a regional emphasis. The National Development Board is introducing a regional orientation to its planning activities; a similar orientation should exist for many EHR programs outside the capital city. Institutions at all levels of the system should attempt to incorporate curricular and other adaptations to the needs of their regional students and potential employers. National interests will still be served by making the large majority of EHR programs more effective regional resources for development.

38. Affordability. An obvious but frequently ignored criteria for project selection is that the project activities must be affordable within the budget levels assigned to the activity. Too often, a large gulf exists between a projects goals and its realized effects because the project was designed for a budget level substantially greater than that finally realized. Affordability must become an issue of project design rather than an explanation for why a project has not succeeded.

39. Sustainability. "Sustainability" refers to the ability of activities to continue efficient operation after the initial project is over. This is an especially crucial consideration for government projects that involve external assistance and for private sector activities that involve government assistance. In both cases the critical question is whether the positive effects of the EHR project can be sustained after external or government assistance comes to an end. If not, then one must question the value of a project intervention that will cease after the project period is over.

40. Efficiency. A project should both be internally efficient in its own operations and have as one of its intended effects the increase in the general efficiency of the EHR sector. For example, a major goal of any project to restructure the MOSE would be to increase the cost-effectiveness with which it fulfills its responsibilities. However, the restructuring project itself must be efficiently designed and implemented or its own functioning will be counter-productive to its goal.

41. Encouragement of new resource mobilization. All projects in the Master Plan will require resources. While most of these interventions cannot be self-financing, all do have the responsibility of exploring ways in which additional resources might be generated for their support. For example, textbook and instructional materials projects should stipulate how book costs will be shared among the central government, local authorities, and students; vocational training consolidation could be financed in part through the leasing of facilities that are identified as redundant during the consolidation process; and management training should prepare local and school administrators to deal with parents, communities, and local private sector firms to recruit funds for their schools.

ACTIVITY I – OVERVIEW

ISSUE: Basic and general secondary education is in crisis.

STRATEGY: Preserve and enhance basic and general secondary education for both rural and urban areas.

OBJECTIVES:

- Enrollment increased
- Dropout rates decreased
- School facilities improved
- Teacher salaries increased
- Curriculum, materials, textbook problems resolved
- Teachers, administrators retrained for new social and economic development

PROJECTS:

1. Encouraging alternative EHR delivery.
2. Designing, printing, distributing and using textbooks and other instructional materials.
3. Improving the use of teachers.

PART FIVE: MAJOR ACTIVITY AREAS AND PROJECTS

42. The activity areas and the projects discussed in this section are a product of the extensive discussions held on the Master Plan subsequent to the dissemination and reassessment of the EHR Sector Review's issues and options (see Appendix). Each of the six activity areas are discussed in terms of the context and justification for assigning a priority to that particular activity. Each project within an activity is then discussed in terms of its characteristics and specific action steps are provided. Every effort has been expended to keep this set of projects and activities from becoming an inclusive list of all the "good things" that might be done in the EHR sector. Rather, participants in the discussions have repeatedly been asked to limit their suggestions to no more than three to four projects in an activity area.

ACTIVITY I: PRESERVATION AND ENHANCEMENT OF BASIC AND GENERAL SECONDARY EDUCATION FOR BOTH RURAL AND URBAN AREAS

CONTEXT AND JUSTIFICATION

43. Mongolian basic and general secondary (K-b) education is in a state of crisis. Enrollment is declining dramatically and dropout rates are rising at all levels and in all regions of the country. Schools are deteriorating from lack of funds for maintenance; teachers are leaving the profession for better-paying posts; curriculum, materials and textbook problems in the system remain to be resolved; and teachers and administrators must be retrained to be effective in the country's new social and economic environment.

44. At the present time, however, Mongolia remains a highly literate nation with an educational heritage surpassed by few Asian countries. The legislative, cabinet, and educational establishments are seeking ways of maintaining and improving the EHR system and arc embarking on numerous innovative programs. If the education system can survive the crises brought on by the loss of Soviet and East European subsidies and trade relationships, the rigidities remaining from the command bureaucracy, and the stresses of the current transition to a market economy, and if it can adapt expeditiously to the current and future needs of the country, the EHR system will continue to provide the nation with the human resources it needs to build a positive future.

45. It must be clear in implementing the reforms proposed by the EHR Master plan that what Mongolia wishes to preserve and enhance is the equity and effectiveness of the results of basic and general secondary education. The outdated system of centrally directed administration and of highly standardized delivery of instruction should not be preserved; it is financially wasteful, academically ineffective, and does not fit with Mongolia's traditions, present conditions, or plans for the future. Alternative structures and alternative forms of instruction will be necessary to serve the variety and seriousness of Mongolia's needs for effective instruction in basic and general secondary education.

46. The structure of the formal education system to be preserved is as follows. "Basic formal education" should consist of the last two years of kindergarten and the grades 1 to 6 of formal education. Special attention should be directed to the need to preserve preschool programs in rural areas where these early educational experiences are such a critical determinant of later school participation and learning achievement. These levels of public education primarily should be a responsibility of government. While no rigid expectation of school-based revenue should be mandated for basic formal education, schools should be allowed to have their own herds or other agricultural activities and parents and communities should be encouraged to assist their local schools through parent-teacher organizations or the DANIDA-proposed school development councils. Parental and community support should be in the form of financial assistance but also contributions of labor, materials or supplies.

47. Kindergarten, plus appropriate levels of primary school (determined by local needs and resources) should be made available in each child's home area. The placement of very young children in dormitories to facilitate larger enrollment levels in centralized schools is pedagogically unsound and has been a contributing factor to the nonattendance, dropout, and poor academic performance of the most rural students.

48. "Secondary education" includes grades 7 to 10. These grades normally will be provided as part of the formal education system, but grades 9-10 also may be provided in nontraditional or nonformal ways where these approaches are appropriate. The secondary schools may operate more formal economic enterprises but the local educational authorities should carefully monitor such activities to assure that the instructional activities arc not compromised by the operations of the enterprises. All secondary schools should be allowed to retain grades 9 and 10 (or create nontraditional or nonformal alternatives), even where enrollments may be below the present requirement of 20 students per grade level. The structural reforms of K-b education discussed here are essential to the preservation of its effectiveness in both rural and urban areas.

49. Finally, it is important to recognize that the discussion here and in the earlier EHR Sector Review of "nontraditional" delivery systems and structures is correct only if one views the Soviet-inspired system as "traditional" for Mongolia. However, if one considers the true Mongolian traditions in rural education, what is really being proposed is a return to Mongolia's own traditional means of assuring effective and equitable education for its rural citizens. "Home-based learning," "khot-ail" schools, and ger schools have all existed in Mongolia before as have multi-grade and multi-subject teaching.

PROJECT #I-1: Encouragement of Alternative Structures and Forms of EHR Delivery, with Appropriate Cost Containment, to Meet the Needs of Rural Areas

50. The educational crisis in Mongolia is most serious in rural areas. The lack of financial resources, the greater shortage of teachers, the distances between communities, and the scarcity of support institutions such as libraries and museums, means that the school is the sole

source of formal educational instruction in many locations. Also, it is in the rural areas where the closing of many kindergartens and boarding facilities (along with the increased value of a child's time in herding) have resulted in higher levels of nonattendance, increased dropouts, and greater absenteeism.

51. The goal of the Master Plan reforms are to create a school environment where students, parents, teachers, and administrators all feel they can benefit. Schools should become a conduit for other social programs (for examine, food assistance, health and nutritional information, etc.) and the local center for all formal and nonformal learning activities -- including programs for adults. The pattern of locating schools almost exclusively in aimag or somon centers cannot serve the diverse current needs of the rural society; neither can the system of specialized single subject and single grade level teaching. Both alternative forms of school organization (encouraging khot-ail, ger, and family schools) and of instructional delivery (multi-subject and multi-grade teachers, programmed teaching and programmed learning materials, and distance education) should be explored. Higher levels and greater equality of learning achievement, not standardization of instruction, should be the standard by which instructional activities are judged.

52. An emerging area of need for new alternatives is in the approach the educational system uses with handicapped children. A recent DANIDA proposal in this area notes that provisions for handicapped children are limited in Mongolia at present and there is almost full segregation of these students from other pupils in schools or classes. Also, the existing programs are located almost exclusively in the cities and a few aimag centers. The DANIDA proposal has the objectives of changing awareness and attitudes about handicapped students, introducing methodologies, skills, and materials to promote integration of these students in regular classrooms, and of developing nonformal and distance methodologies to convey education to handicapped students in rural areas. These goals would be achieved through the use of family and other local learning resources and are thus an appropriate specific complement to the more general strategy proposed here to adapt delivery of instruction to the conditions and needs of the learners.

53. Mongolia has had remarkable success in assuring equity in terms of access to education on the part of both boys and girls and both urban and rural populations. Until recently, enrollment in early primary education (grades 1 through 3) was well above 90 percent in both urban and rural communities and among both boys and girls; enrollment rates are now dropping, especially among rural males. Of course, even in the earlier situation, the quality Of education was not the same in all regions. Equity issues will increasingly be concerned with differences between numbers of students who continue in urban versus rural areas, and differences in the numbers of boys and girls who continue in the two areas. Equity can be maintained only through broader access to formal education and through alternative and nonformal provision of the core curriculum of formal education.

54. In summary, without substantial reform, the K-b education system may continue for some time to shrink in terms of enrollments and to deteriorate in terms of instructional quality

and relevance. The number of children not in school could increase dramatically; if this happens, illiteracy rates will climb and semi-literacy will increase, especially among younger and more rural populations. The current generation of children very likely will be less educated on average than their parents. Ways must be found to slow down the erosion in the quantity and quality of education offered at the basic and general secondary levels. Attention must be given to curriculum and materials adapted to current needs; priorities must be set so as to use scarce resources in a focused way and so as to assure that the entire K-b education system does not collapse and to encourage more students to remain in school. Nontraditional educational strategies must be introduced to reach nonattenders and school dropouts with education and training appropriate to their present lifestyles and to their future skill needs. Also, educational administrators must receive training in how to manage in times of austerity and to find the means to make education more relevant to their students and communities.

55. Action Steps. Current policy is to decentralize education to the aimags and the somons and to encourage these local and regional authorities to finance as much of kindergarten to grade 10 education as possible. Most aimags and somons can not fully support the schools which now exist and some ten-year schools have been reduced to eight-year schools; also, some aimags are eliminating the boarding facilities for nomadic and rural children. Despite the efforts of many local leaders and school officials, the necessary resources are simply not being provided to keep the present highly standardized and centralized system of instructional delivery at an acceptable level of effectiveness.

56. One might make a reasonable case that the former high levels of educational opportunity in Mongolia were only affordable because of the external subsidization of the socialist economy and that some downward adjustment is needed during the current economic crisis. However, if the EHR system is allowed to deteriorate much more than it has during the past three years (and especially during the past year), it may reach the point where it will take many years to reconstruct it to an acceptable level of quality, effectiveness and efficiency. Priority, then, must be given to maintaining a certain core level of basic education services. Beyond that, priorities must be set as to which elements of the system will be maintained at high quality. If all elements are allowed to deteriorate, no part of the system will be effective. Whatever priorities are selected, they must be realistic in the current social, economic and political environment.

57. First, the structural reforms discussed above must be made. However, the structural reforms are a necessary but not sufficient change to preserve the rural educational system. Teacher utilization in rural schools will need to adapt to the realities of the new structure of schools and classes. Many of the new schools and classes will not have sufficient numbers of students to justify a separate teacher for each grade or, at upper grade levels, a separate teacher for each major subject area. Also, in grades 9 and 10 in many somon center schools, the number of students may not meet the current requirement of 20 students per grade level. The solution should not be to close these classes but to adapt teacher utilization to these conditions through multi-subject teaching. The topic of teacher utilization is dealt with more generally in Project #1-3.

58. A second key policy issue which must be resolved is that of teachers' salaries. In many locations, the low level of teacher pay is causing some of the best teachers to leave teaching and, among those who remain, has had a negative effect on teacher motivation and morale. This issue is related to the overall problems of civil service salaries, however, and can only be resolved effectively in concert with the broader public service employment reform. This reform itself is constrained by the requirements for cost control and budgetary austerity faced by the government.

59. Third, textbook manufacture and distribution is another area in need of policy reformulation. Various options are being discussed for improving Ministry of Science and Education printing capacity; for strengthening the government printing press to engage in textbook work; for encouraging the private sector to handle textbook printing and publishing. Lack of a specific long-term policy on textbook manufacture and distribution is serious in that textbook production, manufacture and distribution is an industrial enterprise requiring careful management and professional skills if it is to be done efficiently. Project #1-2 below deals with this topic in more detail.

60. Fourth, every effort should be made to encourage the DANIDA-sponsored work by the Royal Danish School of Educational Studies (RDSES) in the areas of curricular reform, teacher and administrator education (the administrator education in coordination with the well advanced efforts by UNESCO in this same area), and textbook and materials development and distribution. Also, the MOSE should provide support for the proposed activity in special education. In each instance, these activities are seen as directly supportive of the Master Plan's goal of maintaining the national core curriculum while making instruction more adaptive to learner's needs and to the varied conditions of Mongolia's schools. Although the benefits of these reform activities' are not restricted to rural schools, they will combine to provide an improved and more equitable educational experience for the rural student.

PROJECT #I-2: Design, Printing, Distribution, and Utilization of Textbooks and Other Instructional Materials

61. In the past, all K-b students had to take the same program with no electives and few options available to aimags, somons, or local schools to modify the program. The program was closely patterned after that in the then Soviet Union, though there were some adaptations to the Mongolian context. In the new curriculum, gradually being introduced since 1991, there will be greater diversification of studies so that students have more options; more vocational skills options at later stages; identification of individual skills and interests rather than having everyone take the same program; no option for purely academic studies, with all students doing pre-vocational and vocational work along with academic subjects, etc. All of these modifications and adaptations are made, however, in support of the core curriculum.

62. However, progress in implementing this new curriculum has been slowed by the serious lack of new textbooks and other instructional materials. Given the lack of training and

experience among many of the teachers, the unavailability of instructional materials is especially damaging to attempts to improve instructional quality. A high priority will need to be given to all four steps in the instructional materials process: design, printing, distribution, and utilization. The last step must not be ignored; any instructional materials program' must be complemented by a training activity that prepares teachers to use the materials properly.

63. With the present and promised help of nongovernment assistance from Japan and of UNESCO's cultural division, increasing numbers of traditional script texts will become available. A primer for first grade, first, second, and third grade reading texts, an elementary math text, grade five, six and seven traditional script texts, a Mongol script orthographic dictionary, a Mongolian script grammar and other text and reference materials are already printed, nearly ready to print, or in the development stage. In fact, what few government resources that have been available for printing and distributing texts have gone primarily to the needs of the courses dealing with traditional script. As was noted in the EHR Sector Review, introduction of traditional script has important effects in terms of other instructional materials and teacher training activities and must be carefully planned and implemented to achieve its goals with minimum disruption of other reform efforts.

64. Other textbooks can be prepared by subject matter specialists in the universities and the Academy of Sciences and by experienced teachers, under contract with the Ministry of Science and Education. These manuscripts would then be edited by the Publishing House for Children's Books and Texts, under the direction of the MOSE. This publishing organization designs books and then contracts with printing houses for the production of the books in quantities necessary for the schools. Generally, sufficient copies are provided the schools to keep in the library and loan to students. The books generally are not sturdy and often last only two years before they are unusable. Paper has been in critically short supply and was a critical constraint on the printing of materials that already have been designed. DANIDA has recently made two substantial grants of paper for the printing of texts. The MOSE allocates this paper either to the State Publishing House or to other printers.

65. Finally, English language texts for the fifth grade have been developed and published by the English Language Institute in San Dimas, California. In addition, the Bell Educational Trust in Cambridge, England (in concert with the British Embassy) has prepared (but not yet published) student books and teachers' guides for teaching English at grades 5 and 6.

66. A complementary effort to all the above is required to develop books, radio and television programming, and other informal cultural and learning opportunities for children. The National Children's Center (and its network of institutions) should take the lead in working with personnel from the MOSE and other ministries, higher education, and the private sector to make children's learning opportunities a priority topic, both in and outside of school settings. A closer relationship should evolve between the MOSE and the National Children's Center programs.

67. Action Steps A carefully phased program should be devised for the development of curriculum materials that reflect the new curriculum goals, including materials in the practical

arts that are adapted to the needs of each region. Current curriculum development activities should be considered a part of the plan, and individual projects that now exist and that will be added in the future should be considered. The aimag methodologists should work with local schools, teachers, and parents in the design of locally relevant materials to supplement the national materials in core subjects. Needs for curriculum materials in nontraditional delivery of the national curriculum (khotial, ger, and home schools) should be a core part of any future instructional materials development program.

68. A study should be undertaken of the textbook and teaching materials manufacturing capacity of the government printing system and of the private sector. This should lead to a plan for the development of the printing industry, both governmental and non-governmental, in Mongolia, and a clearer understanding of the logistics necessary for the manufacture of textbooks and teaching materials. The plan should recognize that textbook and teaching materials manufacture is an industrial process and is not efficient unless examined in conjunction with the entire printing and book manufacturing environment of a country. Small reproduction facilities for pilot editions of teaching materials are often needed by educational institutions and publishing houses, but once the materials are ready for manufacture, they must be handled by a printing industry that can expeditiously and cost-effectively produce and package the materials.

69. The difference between publishing and printing must be clearly understood. A publishing house plans the publications, contracts with authors, edits and formulates the layout of the publications, decides on print runs and pricing and distribution strategies but rarely has its own printing house. When publishing houses have manuscripts ready for printing, they then contract with printing establishments for their manufacture. The printing industry, both governmental and nongovernmental, however, must be capable of responding to the needs of the textbook and teaching materials publishers, and this requires a plan of action to develop the industry. Wherever possible, the creation and location of printing facilities should encourage use by a wide range of levels and types of educational institutions.

70. Government should assign a high priority to the need for greater numbers and improved quality in learning materials for children. The MOSE and the National Children's Center should collaborate in the development and dissemination of books, radio and television programming, and cultural opportunities for all children.

PROJECT #I-3: Improving Teacher Utilization

71. The education system has traditionally been well supplied with qualified teachers, though many qualified teachers are now leaving the profession to find more remunerative jobs. For the first time in recent years there was a decline in the number of teachers in the school system in the school year 1992-93. Part of this decline may have been due to the change in teacher requirements caused by the dropouts during the last three years but most of the reduction reflects the difficulty of recruiting and retaining teachers in the rural areas. The MOSE indicates that there is a serious shortage of qualified teachers for the school year that began in September,

1993. During 1992-93, 1,270 teachers left the service, many for posts in the private sector. In order to replace the teachers who have left, and to fill posts vacated earlier with qualified teachers, 3,380 new teachers would be needed, according to Ministry estimates. The Ministry indicates that the aimags will seek tenth-grade graduates to teach in the early grades and graduates from specialized professional schools to teach in the upper grades. It is likely, of course, that many schools will have to continue to make do with large numbers of under-qualified teachers as budget restrictions will probably preclude filling all teaching posts with qualified teachers, even if they were available.

72. Given these conditions of teacher supply and demand, it is of paramount importance that the teachers who are in the schools be utilized effectively. At present there are four main constraints on the effective utilization of teachers: (1) the teachers' own lack of training and experience; (2) the inability of inexperienced and untrained school administrators to fit teacher abilities to existing classroom demands; (3) the requirement for specialized teaching beyond grade 4; and (4) the need for complementary instructional materials to allow for the new interactive teaching required by the new curriculum.

73. The requirement for better trained teachers will demand not just improved and expanded teacher training programs but better incentives that encourage the best teachers to stay in the classroom. The issue of premature subject specialization among classroom teachers can only be resolved through a thorough review of the structure of the curriculum. Given the fiscal and teacher supply realities of the next decade, specialization probably should not occur until at least grade 7 and all teachers should be prepared to teach at multiple grade levels. This will facilitate the provision of basic formal education in rural areas and will help keep grade 9 and 10 programs in schools which have less than the required 20 students in these grades.

74 Teachers require training in the new interactive teaching methods upon which the new national curriculum is based. Also, as learning technologies develop, preservice and inservice courses must be adapted to these changes. The Mongolian classroom of the 21st Century will be a dramatically different one only if teachers are prepared to fulfill their new roles.

75. ActionSteps The implementation of this project will necessitate four separate steps in addition to the management and instructional material reforms. First, a review of the structure of the schools and of the school curriculum must take place. A policy decision is required on the grade level at which teacher specialization will take place. However, this new policy should also allow for later specialization in rural areas where the number of students and constrained budgets simply will not justify a full complement of specialized teachers at each grade level.

76. Second, there needs to be development of the capacity of teachers to conduct multigrade level courses. This should become part of the preservice and inservice curriculum for teacher training courses. A special challenge will occur at the senior secondary level (grades 9

and 10) where some teachers in rural schools may need to teach both multiple grade levels and multiple subjects.

77. Third, teacher utilization will never be effective until teachers are able to change from the current lecture format to a more interactive instructional dialogue with their students. This demands not just a change of teacher training and attitudes but also requires the availability of instructional materials to support the new teaching methodology. The Pedagogical University, as part of its work program with the RDSES, should take the lead in exploring both the training and instructional material requirements for development of effective teacher utilization in both rural and urban classrooms.

78. Finally, step four is the reassessment of teacher incentives to remain in the teaching profession and to perform effectively in the classroom. Current financial constraints and the need for teachers' salaries to be reconsidered as part of a broader reform of the civil service pay structure will limit what can be done to improve financial incentives in the short run. However, school budgeting should emphasize cost control in other budget areas, the elimination of redundant staff, and the mobilization of new sources of funds from school enterprises, parents, and the community. Teacher pay should be the primary beneficiary of these efforts over the next five years and school and local administrators must establish incentive systems of pay and working conditions that reward, retain, and motivate the best teachers.

ACTIVITY II – OVERVIEW

ISSUE: Higher education must respond to a rapidly changing society.

STRATEGY: Reform higher education to serve national development needs more effectively.

OBJECTIVES:

- Economic/financial realities confronted
- Higher education units consolidated
- College and university missions redirected to support national goals
- Academic, research and public service programs improved, made more relevant

PROJECTS:

1. Rationalizing the role and mission of higher education institutions.
2. Increasing autonomy in higher education.
3. Enhancing the efficiency of higher education.
4. Strengthening management skills of entrepreneurs.

ACTIVITY II: REFORMING HIGHER EDUCATION TO SERVE NATIONAL DEVELOPMENT NEEDS MORE EFFECTIVELY

CONTEXT AND JUSTIFICATION

79. Higher education in Mongolia reflects the prevailing conditions of a rapidly changing society which is moving into a market economy and attempting to become more open and democratic. Like other important sectors of the nation's educational system, it is adjusting to new governmental reform policies and coping with the effects of a continuing financial crisis. At the same time, higher education is working to bring about changes in society through its instructional, research, and public service activities. To ensure maximum benefits for national development, and to effect social changes efficiently, master planning is essential - at both national and institutional levels. As a first step, planning for higher education must begin by attempting to anticipate basic trends and responding to the challenges they present by establishing a clear set of policy priorities.

80. Several basic assumptions about Mongolian society underlie the development of the master planning activities which are set forth in this section of the document. First, while the overall size of the population which is served by higher education appears to have stabilized, changes in the composition and distribution of that population will continue to take place. For example, the numbers of older, non-traditional, and part-time students are likely to increase and agricultural student populations continue to decrease. Second, as Mongolia moves into a free market-oriented economy, increasing proportions of the work force will be required to acquire new technical skills and managerial competencies. Better and more broadly educated people will be needed, and demands for early specialization will decrease. Third, the competition for the limited financial resources available to the nation will continue to grow due to inflation, slow economic growth, and the economic adjustments which are inherent in the transition from a subsidized command economy to a self-sufficient free enterprise system. The impact of continuing fiscal constraints on higher education will focus attention on performance (and on accountability for performance) and should lead to a reallocation of material resources, consolidation of institutions and programs, and appropriate staff retrenchment. Fourth, anticipating that university admission quotas will be eased or removed, the employment prospects for university graduates may become more difficult.

81. In the face of these realities, the increased autonomy which was granted to the higher education system under the Education Law of 1991 can best be preserved if the institutions themselves, in close collaboration with the Ministry of Science and Education, adopt procedures of self-study, institutional master-planning, and peer-evaluation which will assure high quality and academic excellence. Creative solutions to common problems must also be designed and vigorously pursued. A willingness to reevaluate all existing structures and to employ flexible cooperative alternatives, including consolidations and mergers, to meet the needs of students and faculty will be essential if an effective educational environment is to be

sustained. It is within this context that the higher education provisions of the overall Master Plan were produced.

82. Higher education can be a vital force in Mongolia's development. It will become even more important as the society becomes increasingly technological and democratic, and as its problems become more complex. Highly skilled graduates and innovative research programs are critical to the nation's future well-being. At present, however, Mongolia faces a severe financial crisis, and a period of retrenchment and austerity. During the next five years (and likely longer) the universities, the MOSE, and the government will be required to face up to economic realities; consolidate major units of higher education to remove wasteful duplications of staff and facilities and eliminate wide-spread operational inefficiencies; re-direct the missions of colleges and universities to support new national goals; and build more quality and relevance into academic, research, and public service programs.

PROJECT #II-1: Rationalizing the Role and Mission of Mongolia's Institutions of Higher Education

83. In Mongolia's transition from a socialist state to a free market-oriented society, the Mongolian State University was disassembled and has been fragmented in ways that are already proving detrimental. Diversification of institutional programs and educational strategies is a worthwhile objective. However, great care must be taken to avoid unnecessary duplication, to exploit economies of scale, and to assure that funds are allocated efficiently. There is considerable evidence that Mongolia is too small a country, with too fragile an economic base, to support all of the separate "universities," colleges, institutes, and centers that emerged from the break-up of MSU or have been added to the higher education system in the last three years. Consolidation is badly needed. In some areas, it has already begun - in agricultural, medical, and technical education. However, the process needs to be conducted on a broad front because, as the government has directed, universities are now additionally required to merge teaching and research functions in their various faculties, and at the same time to integrate science and technology activities. Proper diversification and appropriate unification are best accomplished when each institution defines for itself a clear role and discrete mission within its general area of academic responsibility. To ensure the establishment of an efficient, higher education system, the rationalization process should be undertaken as soon as possible.

84. Action Steps. First, the Office of the Prime Minister, drawing upon advice from the Ministry of Science and Education, the Council of Rectors, the Academy of Sciences, and other stakeholders in higher education, including the general public, should form a special Committee on the Rationalization of Higher Education. This committee, appointed by the Prime Minister, would be composed of representatives from such groups as: MOSE and other relevant ministries and government agencies, the Council of Rectors, members of the State Khural, its Standing Committee for Education, Science, and Culture, the Higher Education Reform Commission (HERC), private educational institutions, faculty members, students, parents, the Mongolian Chamber of Commerce and Industry, other private sector representatives, and the

general public. Chaired by a distinguished Mongolian citizen, the committee should be charged with the responsibility of reviewing the programmatic missions, undergraduate degree programs, research activities, planning efforts, and other educational activities of all Mongolia's public postsecondary institutions, including off-campus branches. Clarifications and fuller definitions of institutional roles and missions should be obtained when necessary. Detailed input from the Academy of Sciences, the National Development Board, the Ministry of Finance, and all other relevant ministries should be solicited. Recent information gathered by the MOSE to determine the classification of institutions as "National University," "University," and "College" should be reviewed, adapted, and utilized. Finally, the student populations which are to be served by these institutions, now and in the future, should be assessed. Data collection and analysis assistance, together with all staff support, which would be required by the committee to complete its work should be provided by the MOSE, in collaboration with the Office of the Prime Minister.

85. Second, the Rationalization Committee should: (1) develop a set of recommendations calling for the most efficient forms of consolidation of existing units (universities, colleges, institutes, schools, and other institutional divisions), programs, facilities, and support services; (2) establish guidelines for the merger of various research centers and institutes, and their integration into the universities; and (3) suggest institutional policy statements concerning the expected teaching, research, and public service assignments of individual departments and faculty members. The report of the Rationalization Committee should be widely distributed and debated prior to implementation of its proposals.

86. Third, the Rationalization Committee should seriously consider recommending the establishment of a single comprehensive national university for Mongolia. Based upon its review of all available resources, human and physical, it should develop a detailed plan and a schedule calling for the step-by-step consolidation of the various academic components, including the research institutes, and their incorporation into the national institution. This process should proceed in three or four stages over the next five years. Two caveats must be borne in mind, however. First, the establishment of a single national university will require the reorganization and liberalization of the present National University of Mongolia if it is to serve as the nucleus of the new consolidated institution. Second, the kind of university structure which is needed must give its various colleges and faculties considerable autonomy within the larger organization. At the same time, it must encourage all units to benefit from the efficiencies of shared facilities, centralized support services, cooperative planning and policy-making, and elected leadership. A centralized, "top-down" administration would be inappropriate and unacceptable.

87. A special topic for consideration of the Rationalization Committee is the provision for privatization of existing public institutions. If this is permitted, fair compensation would be required for any facilities, equipment, or materials that are transferred to the private institution. Private institutions should not retain access to general public subsidization although the long term goal of the student loan program should be to make some funds available for students in private higher education. Also, mergers should be considered between existing public

and private institutions only where this is shown to promote cost containment or more cost-effective delivery of instruction, research, or service.

88. If Mongolia is to create a comprehensive educational institution of higher education of international standards, it must acknowledge that a truly national university provides a distinguished faculty whose teaching is enriched by the pursuit of knowledge; it offers an array of programs of study in the arts, letters, and sciences and in the professions - at both undergraduate and graduate levels; and it conducts pure and applied research as a basic responsibility in the service of the nation. It is characterized by a breadth of curricular offerings, the exchange of ideas among a diverse mix of undergraduate, graduate, and professional students, and ready access to the academic and cultural resources and facilities which support a university, such as libraries, laboratories, and museums. Finally, the student body should be truly representative of Mongolia's diversity.

PROJECT #II-2: Increasing Autonomy in Higher Education

89. The Education Act of 1991, together with the numerous executive orders issued by the MOSE Minister since that time, has confirmed the direction that higher education reform is taking in Mongolia. These regulations acknowledge the fact that the government will no longer provide full financial support for institutions of higher education, and direct the establishment of institutional tuition plans and a student loan program. They affirm the policy of academic freedom, allowing colleges, institutes, and universities to plan their own academic programs and to seek funding for research and service activities from both public and private sources. They also encourage support for the establishment of private institutions utilizing contributions from business corporations, industrial firms, and individual donors. However, authorizing greater independence and autonomy for colleges and universities is one thing, but implementing such reforms is another. For example, the student loan program which was introduced this past year has not provided loans to students to carry to institutions of their choice. Instead, it has forced universities to attempt to negotiate loan agreements with government and private sector employers to cover the tuition costs of the "sponsored students" already admitted to their institutions.

90. The issue of institutional autonomy in enrollment planning is even more important. One of the keys to a university's exercise of control over its own affairs lies in the freedom it has to respond to student demands for its academic and professional programs and in the discretion it has to plan for future student enrollments. Traditionally, enrollments in higher education institutions in Mongolia have been determined by admission quotas set centrally by the National Development Board. These quotas are allocated by aimag, based on manpower projections and the requests of local government authorities. They are deliberately kept low to guarantee a high level of employment on the part of graduates. As a result, the competition for admission is intense and many qualified students are denied the opportunity of higher education. Some of these students, of course, are now able to enroll in private institutions.

91. However, serious doubts are being raised about some of these centrally-determined policies and procedures which, after all, were based on the philosophy of a government dominated economy. The introduction of significant levels of tuition fees will make it increasingly difficult for universities to turn down self-supporting students for admissions. And when the loan program is made to work properly, there may be even more qualified applicants demanding to be admitted. Furthermore, several institutions are known to be under-enrolled. With an average student/faculty ratio of 8:1, nearly all of the existing universities have the capacity to accept substantially more students.

92. Finally, as Mongolia becomes more democratic and open, the demand for higher education of all kinds will increase, including adult continuing education and special education. In the private sector, this increasing demand is already being demonstrated in the steadily growing number of private institutions that have been established mostly in Ulaanbaatar in the past three years. In the transition to a market economy, the need for private, independent institutions of higher education which are prepared to respond to the demands of Mongolians for foreign language instruction, business management courses, etc. will also increase. This trend should be encouraged. Given more autonomy, both public and private institutions of higher education, are being provided with opportunities to develop new, more relevant curricula.

93. Action Steps. First the Council of Rectors, in collaboration with the National Development Board and the MOSE, should determine enrollment projections and goals for each of the universities and colleges on the basis of (1) national and institutional goals concerning access (e.g., rural/urban, male/female), admissions (e.g., specialization choices, previous preparation, experience), and quality (academic and personal qualifications); (2) the number of students who can reasonably be expected to seek admission to the public institutions of higher education over the next five years; and (3) the enrollment capacity of each institution according to the institution's mission within the system.

94. Second, the government student loan program should be reorganized from an institutional tuition subsidization program to a student-centered loan program allowing the students to carry their loans to the universities of choice - and permitting market forces to operate. Repayment of the loan to the government should be the student's responsibility upon graduation. However, unless the government provides funds to the universities to loan to students in the first place, and allows them the autonomy to manage such funds, the universities should not be held responsible for the administration of loan repayments to government.

95. Third the Higher Education Rationalization Committee, in consultation with agencies of the private sector, such as the Mongolian Chamber of Commerce and Industry, should take steps to facilitate the establishment of one or more independent institutions of higher education and to assist in defining their roles and missions. For example, to expedite the transition to a market economy, the need for new managers in business and in government is urgent. The need for trained entrepreneurs and private enterprise experts is equally critical. Thus, in this training area, it is the independent college, supported by student tuition and grants from private corporations and individual donors, and dedicated to the training of business executives,

that should be given one of the highest priorities. It is important to demonstrate just how autonomous private institutions can be, and what a significant contribution they can make to the educational needs and economic and cultural life of Mongolia.

PROJECT #II-3: Enhancing the Efficiency of Higher Education

96. Recognizing that higher education has a special role to play in Mongolia's new democratic society, the State Khural delegated greater autonomy to colleges and universities and authorized the establishment of private institutions. These steps were based on the belief that institutional initiative and innovation, as well as greater institutional quality and commitment, are likely to occur if there is a minimum of ministerial controls. However, there must be a proper balance between the claims of an institution to autonomy and the responsibilities of the institution to promote the interests of the public. On the one hand, the MOSE has the basic responsibility to assure the government and the public that all Mongolian institutions of higher education, both public and private, are offering programs which meet minimum acceptable standards, and that all public institutions are maintaining and improving the quality of their faculties and the instructional programs which are offered to students. On the other hand, to demonstrate the maintenance of academic quality, colleges and universities must: (1) provide accurate information concerning the qualifications of their faculties; (2) show that their academic programs satisfy minimum standards and definitions; (3) offer full disclosure of policies and requirements affecting students and student performance; (4) subject their academic programs to regular review and scrutiny by outside peers, including international colleagues, if possible; (5) adhere to the accepted practices of comparable institutions with similar missions in the awarding of diplomas and degrees; and (6) maintain vital support services, such as library holdings. It should be recognized that the ultimate responsibility for the excellence of the faculties, the quality of the academic programs offered by those faculties, and the level of student performance required for graduation properly rests with the institutions of higher education themselves.

97. In this respect, it is the faculty that largely determines the quality and vitality of a college or university. In Mongolia, in even the best institutions of higher education, there is need for younger and more highly qualified teacher-scholars. The senior professorate of the country is highly specialized in its academic disciplines, and its members teach few students. More serious than overspecialization, however, is the problem of obsolescence. With limited library resources and laboratory facilities, many faculty have been unable to keep up-to-date in their fields. Still others continue to rely upon ideology rather than upon the scientific method in their approach to teaching and research. Moreover, too many of the present faculty have had difficulty adapting to the government's educational and economic reforms. Also, as Mongolia moves more rapidly into a market-oriented economy and the labor market opens up, the universities' low salaries in competitive fields (such as business, engineering, and computer science) will make the recruitment and retention of qualified faculty increasingly difficult. Higher salaries are needed, as is a system of differential salaries based on market demand, professional credentials, workload, and quality of performance.

98. Action Steps. First. each institution of higher education should establish a special Task Force, composed of faculty members and administrators (and outside consultants, if

possible), appointed by the Rector, and charged with the responsibility of reviewing all instructional, research, and public service activities of the institution, together with an assessment of budgetary, faculty, and staff requirements, for the purpose of identifying and eliminating inefficiencies and waste. Recommendations should include the possible discontinuance of programs, the consolidation of academic departments and programs, and the retrenchment of unnecessary faculty and staff.

99. Second, following this cost-containment effort, the universities should concentrate on the upgrading and development of their faculty resources. Among other things, they should seek to develop a system of performance evaluation and compensation which motivates and rewards the most productive scholarship and most effective teaching. Also, they should seek a level of compensation in recruiting new faculty members which serves as an incentive to attract qualified personnel to meet the goal of maintaining the highest standards of teaching and research. In addition, the isolation of Mongolian universities must be relieved. They need to develop faculty exchange and study leave programs and seek funding for selected faculty members to study abroad (for advanced degrees, in some instances). They should also develop and seek funding for Visiting Professor programs to introduce new personnel and new ideas into their academic departments.

100. Third. colleges and universities should seek to improve and strengthen their academic programs. All institutions of higher education, both public and private, should develop the appropriate descriptive materials for potential students and make public: (1) accurate, relevant information about themselves, especially their faculties; (2) those policies and standards which support their programs and goals, such as those covering admissions, matriculation, academic standing, tuition and fees, and graduation; (3) minimum requirements and standards defining the work required for each degree offered; and (4) definitions of terms (e.g., national university, university, college, academic department, research institute, diploma, bachelor's degree, master's degree, doctoral degree, etc.) as determined by the Council of Rectors in collaboration with the MOSE.

101 The MOSE, once again in collaboration with the Council of Rectors, should develop minimum requirements for the licensing of educational institutions, both public and private, and the licensing of degree programs, and establish procedures for granting such licenses. In addition, procedures for the formal "institutional" accreditation of colleges and universities should be developed, but with even greater care and consultation. The procedures should evolve from institutional experience and, when introduced, be based on criteria defined by the institutions rather than those imposed by any of the ministries. Therefore, at some point during the next five years, a nongovernmental accrediting association composed of Mongolian colleges and universities ought to be established. Meanwhile, institutions should develop procedures for the self-study and peer review of their academic programs, including evaluations of student performance and the teaching effectiveness of their faculties.

102. Fourth, the MOSE, in consultation with the universities and the National Library in Ulaanbaatar, should undertake to improve library resources available to students and faculty,

including access of up-to-date books, periodicals, scientific journals, and electronic data-bases. Initially, it should (1) develop an inventory of all academic library resources in Mongolia; (2) undertake a survey of the pattern of student, faculty, and other use of each institutional library; (3) make recommendations concerning the optimum use and development of university library services; (4) identify the gap between current demand and capacity for copying of documents; and (5) develop guidelines for institutional policies governing the acquisition of library collections that will meet instructional, classroom, and research needs of individual institutions and the higher educational community as a whole. The growing needs of branch campuses should receive special attention. Based on the inventory and survey data collected, the MOSE should assist the universities in establishing priority needs in library development and explore ways of obtaining acquisition and special purpose grants from the donor community.

PROJECT #II-4: Strengthening Management Skills of Entrepreneurs

103. All managers of organizations must possess specific managerial skills if they are to perform the functions of planning, organizing, leading, and controlling which are needed to meet organizational objectives. Moreover, the universality of management practices in both private and public sectors is a well-known concept. However, as the private sector in Mongolia continues to grow and as privatization is expanded, there will be an increasing need for energetic, self-motivated entrepreneurs to initiate and operate their own businesses. The skills of entrepreneurs and potential entrepreneurs can be improved by exposing them to the intricacies of finance, investment financing, business law, and corporate accounting, and familiarizing them with the management techniques of successful and unsuccessful business ventures in both developing and developed countries. There is a clear need for higher education to assign a high priority to the development of a capacity to deliver instruction (in both short courses and degree programs) and consultancy assistance in the field of entrepreneurial development.

104. At present the Small Enterprise Promotion Center provides support programs for new and existing small businesses. Approximately 800 entrepreneurs have received training since the Center's inception in 1991. A tracer study found that approximately 300 businesses had been started by training program graduates. The Center's six-week training program focuses on basic management skills covering marketing, export and trade, basic accounting and business law. The Ministry of Labor and Population Policy also is currently engaged in a joint effort with the Indian government to train entrepreneurs. One project option is to establish close ties between small enterprise promotion programs -- e.g. the Small Enterprise Promotion Center -- and the vocational and technical education programs. Increasingly, vocational program graduates will need to find employment in small enterprises or may initiate their own enterprises. The introduction of business and entrepreneurship components into the vocational curriculum could increase the chances of graduates achieving success in small businesses.

105. A proposal exists for the creation of a "Small Business Development and Resources Administration Center" under the auspices of the Mongolian Chamber of Commerce. The objective of the proposal is to establish a coordinating mechanism for small and medium sized training and consultancy firms. Currently, no working relationship exists between the

private business sector and the institutions providing postsecondary education in business. The proposed coordinating mechanism would facilitate university and college professionals in providing short course training and consultancies to the new and established entrepreneurs while continuing to support degree-level training within their institutions.

106. Action Steps. First. an attempt should be made to create an ongoing organization with the capacity to offer short course training in specific skill areas identified by the entrepreneurs themselves as well as in those areas identified by professional business educators. This organization should:

- improve the integration between the business development community and the training expertise that exists among the higher educational institutions;

- create a central source of advising and consulting resources; and

- facilitate the role of the Mongolian Chamber of Commerce in the areas of small business development.

107. Second, the Mongolian Chamber of Commerce and Industry, in consultation with the colleges and institutes of management (their consolidation into a new College of Business and Public Administration is one of the options proposed in Project #V-l below) should take the initiative in arranging for the establishment of a program promoting "Free Enterprise in Mongolia." The program should consist of such events as (1) a regular lecture series conducted by visiting business personalities who are experienced in individual entrepreneurship, joint venture partnerships, and international business operations; (2) short-courses conducted by visiting consultants who are experienced business executives on special topics related to strengthening entrepreneurial skills, such as the maintenance of inventory control, the introduction of manufacturing cost-cutting techniques, and the restructuring of sales forces; and (3) workshops organized for upgrading and training managers in the use of a variety of managerial tools, including an array of quantitative and qualitative techniques, in planning and decision making.

108. Third, the proposed College of Business and Public Administration, if implemented, should expand the proposal for the development of an MBA degree program made by the Institute for Administration and Management Development (IAMD) to include a specialization in entrepreneurship. Two tracks should be provided: one for inexperienced students seeking a career in business; the other for "experienced" executives who already hold responsible management positions in a business organization. Most, if not all, of the professors teaching in the MBA program should be trained in the case method, which has already been introduced at the IAMD. This training is necessary to reduce the presently excessive dependence on lecture as the predominant or exclusive instructional approach of some faculty.

ACTIVITY III – OVERVIEW

ISSUE: Mongolia's economy depends on an effective system of vocational-technical education not now in place.

STRATEGY: Rationalize systems for providing vocational skills.

OBJECTIVES:

- Technical education made a postsecondary activity
- Vocational skills training made a secondary education/private/nonformal activity
- TPC and vocational training programs reduced, integrated and privatized

PROJECTS:

1. Introducing basic skills training into general secondary education.
2. Developing postsecondary education.
3. Integrating and privatizing vocational training and retraining outside general secondary education.

ACTIVITY III RATIONALIZATION OF SYSTEMS FOR PROVIDING VOCATIONAL SKILLS

CONTEXT AND JUSTIFICATION

109. An effective system of vocational-technical education (VTE) is an important potential source of the trained manpower on which Mongolia's economy will depend. Unfortunately, Mongolia's present VTE system is both costly and ineffective. Since, for the foreseeable future, Mongolia will not have sufficient funds to upgrade its total VTE system to an acceptable level, difficult decisions must be made about what parts of the system to preserve as public activities and how to use privatization and an increased attention to vocational skills in basic and general education to assure that Mongolians are prepared for the more varied and general job requirements of the future.

110. A majority of manpower training in Mongolia still occurs through formal education. Private schools, out-of-school programs, on-the-job training, and nonformal opportunities have not been properly exploited as means for meeting vocational skill needs. The formal Mongolian manpower training structure makes a clear distinction between vocational education and technical education. Vocational education is training aimed at lower level craft or trade skill development. Technical education involves higher level academic and occupational training designed to develop advanced skills and knowledge. Such technical training prepares manpower for work at the technician, semi-professional, or degree levels. These technical programs are significantly different than the general skill development activities that will characterize vocational education in the future; as a result, the technical education system should become increasingly a postsecondary activity while vocational skills are delivered both in general secondary education and in private and nonformal programs. A small regionally-based system of vocational institutions may remain as a public sector response to training and retraining needs that cannot be met by the private sector.

111. The institutional and system structures designed to train qualified operatives, technicians and semi-professionals have been in transition since 1990. The major component of the current system for providing vocational training is the single- and multi-step training and production centers (TPCs). These centers were created by closing and/or combining all but three of what were formerly known as secondary vocational-technical schools. The three remaining secondary vocational-technical schools continue to provide limited operative training.

112. Enrollments in vocational and technical education have been declining since 1990. The number of enrollees in VTE schools at the secondary level declined by 17,382 students during the last three years. New admissions were off by *5,705* registrants over the same period. For the country as a whole, there were over 5,000 vacant seats at the TPCs in Fall 1993. The continued decline in enrollments and the subsequent underutilization of training capacity is, in part, caused by the collapse of the command system wherein the State demanded specific numbers of people to be trained for specific jobs and then employed them regardless of actual need. Even with the declines of the last three years, however, the total number of places in the

VTE system remain excessive given the present and projected demands of the economy for these graduates.

113. The course of study followed at Training and Production Centers represents a substantial part of the formal effort to provide vocational and technical education. These centers provide training in three broad curricular areas -- agriculture, construction, and industry -- each offering instruction in *15,* 24, and 70 professional specialties respectively. The curriculum, to a large extent, also reflects the needs of the former command system where specific numbers of students were required in narrow specializations.

114 All current VTE programs are financed through a combination of central and local government funding. The manner in which central and local funds are allocated for educational purposes is left to the discretion of local authorities. Vocational and technical schools must compete for finances along with schools from all other educational levels. All external support of vocational and technical education disappeared when the former Soviet Union and Eastern European countries discontinued their aid to the job training programs.

115. The quality of vocational and technical instruction varies greatly among institutions but the quality in most VTE schools has suffered in recent years. As a result of the transition from a command society to a market economy, the vocational-technical education system and its supportive components -- administration and finance, personnel, student services, facilities and equipment, and instructional programs -- have all faced dramatic challenges. The management, planning, and financial system components have undergone significant changes since reforms first began but much remains to be accomplished in terms of making the system internally efficient, properly managed, and responsive to market demand.

116. A majority of the over 100 programs offered in VTE institutions do not prepare students for occupations that have significant employment potential. Rather, these programs of study reflect the heavy industry manpower needs of the former command system. Comprehensive studies of potential employment needs of the new market economy have not been undertaken. Data resulting from "tracer" studies (identifying jobs obtained, length of job search, and means of finding employment) of vocational-technical program completers is incomplete, at best, making it difficult to ascertain the degree to which the programs are meeting existing employer requirements. The quality of vocational-technical education programming has also suffered because of the large number of teachers who have left teaching. Some were made redundant by declining numbers of students and the subsequent restructuring of institutions while others left teaching for higher paying jobs in the private sector or to open their own businesses.

117. This discussion of vocational-technical education in Mongolia suggests that the needs for fundamental reform and rationalization are multiple. Mongolia is facing serious problems in vocational and technical education and in meeting the needs of students and employers who must be served through the subsector. The current formal vocational and technical education structure was designed to meet the needs of a centrally planned economy but

is no longer relevant -- in size, structure, or content -- to the current and emerging requirements of a market economy.

PROJECT #III-1: Introduction of Basic Skills Training and Education within General Secondary Education

118. While the reduced need for (and affordability of) the previous system of highly specialized vocational training justifies the reduced scale for the VTE subsector, Mongolia is facing a growing need to provide basic skill training to all of its citizens. An efficient means to do this is through the provision of basic vocational skills education as a part of the standard general secondary curriculum. In this way, all Mongolian students would receive training in basic skills in such topics as agriculture, wood-working, metal-working, electronics, job safety, and knowledge of modern sector employment requirements.

119 A revised curriculum will need to be prepared for grades 7-10 to include the appropriate vocational topics. The Pedagogical University, in partnership with the Mongolian Technical University, should be given the responsibility for this. The goal of the new courses is not to produce highly specialized workers, but rather to introduce all students to a broad range of vocational topics. The course content should balance national and more regional or local topics. This breadth of experience will be the best preparation for further training in private or nonformal programs, on-the-job training, or for more advanced training at a technical college or at the MTL.

120. The teachers and equipment for these classes can come from individuals who currently are in the VTE system; alternatively, inservice teacher training can help existing teachers offer the new vocational curriculum. Since the course content is not highly specialized or advanced, it will not be necessary for the instructors to be as highly trained as is the requirement in the VTE system at present. Teacher support materials should be prepared to help all vocational instructors fulfill their responsibilities.

121. The vocational courses are proposed for grades 7-10 because it is important that the vocational content be made available before grade 9 when enrollments often decline. However, one goal of the vocational reform in general secondary education is to prevent many students from dropping out by providing them with a program that balances academic subjects with job preparation skills. This new curriculum should be seen by many students and parents as more relevant while at the same time preserving the centrality of the academic courses. There are no more generalizable vocational skills than the abilities to read, write, and work with numbers. When these abilities are combined with vocational and job preparedness skills, graduates in both rural and urban areas will be much better prepared to adapt to the complex needs of an evolving free market labor system.

122. Action Steps. The first step in this reform will be the development of a vocational curriculum for grades 7-10. Second, it will be necessary to identify the teachers who will be responsible for these classes and to provide two forms of teacher preparation: inservice training

and the supply of instructional support materials. Third, necessary supplies and equipment can be obtained from the VTE institutions that are made redundant as part of the VTE integration and rationalization activity (see Project #111-3 below).

123. At all stages of this reform it is important to remember that the purpose is not to have the general secondary school do the same job once done by the VTE institutions. Rather, the new program should be much less demanding in terms of teacher qualifications, time, and equipment and materials requirements. The introduction of the new curriculum content should be monitored by the MOSE with assistance provided to the MOSE by the MTU and the Pedagogical University.

PROJECT #III-2: Development of Postsecondary Technical Education

124. The training needs for advanced technical specialists can be met only by increasing the coordination of technical education at the postsecondary level. For this to occur, the Mongolian Technical University (MTU) must assume a leadership position in the subsector. This requires, in turn, that the MTU improve the quality and relevance of its own programs while developing its current branch campus at Darkhan and the existing set of technical colleges and institutes into a true system for postsecondary technical education.

125. At present, MTU is the primary provider of preparation for Mongolian engineers in a variety of fields. The University consists of four schools and three institutes, offering more than 40 specializations. It includes a School of Electrical Engineering, a School of Mechanical Engineering, a School of Geology and Mining Engineering, and a School of Civil Engineering. Also part of this university are the Computer Science and Management Institute, the Telecommunications Institute, and the Transport Engineering Institute. The branch of the Technical University in Darkhan emphasizes construction technology, offering programs in construction engineering, metallurgical engineering, mechanical engineering of building materials, machinery technology, and building material technology. MTU maintains a postsecondary "Lyceum" to provide students with the additional year of education perceived to be prerequisite to their entrance into the regular bachelors degree programs in engineering.

126. In the past, MTU's programs have been highly specialized and focused on preparation for narrowly defined professions listed in a rather detailed job specification manual which was developed to describe the various posts available in the centrally planned economy that existed hel;0re 1990. This manual drew heavily from the Russian system of job classification. MTU is continuing a process of reviewing and revising its programs to make them more compatible with a market economy so that the emphasis on training for these detailed job specializations will be reduced greatly in favor of preparation for more general professional specializations which will make it possible for graduates to fit into a variety of positions and types of organizations.

127. The lower structural component of technical education includes the technical institutes, schools, and colleges. Some of these were formed through a combination of

institutions that were formerly postsecondary technical professional schools. Among their many offerings, these new institutions develop higher order skills and knowledge for those students wishing to enter the labor market as technicians or semi-professionals. Some of these same institutions also deliver selected operative skills training. The need is for the MTU to organize the technical education subsector to use resources effectively, to encourage a regional system of training and research to serve regional and local needs, and to develop the regional technical colleges as two-year programs that allow the best graduates to transfer into the MTU as third-year students.

128. Action Steps. The realization of this new program of postsecondary technical education will require four major steps: (1) providing the legal basis for structural reform at the postsecondary level for technical education; (2) improving faculty quality; (3) improving the availability of equipment, materials, and library resources; and (4) promoting scientific communication. The first step is the establishment of a legal basis for the MTU-led system of technical education. This will require that the MTU be given appropriate authority over the existing technical colleges and research institutes to be included within the system. Obviously, agricultural programs will remain with the Agricultural University, but an important unresolved policy issue is the placement of the Academy of Science's research institutes relative to the new system. The MOSE's position is that the programs of the Academy's technical research institutes should be merged (or at least better coordinated) with the existing research and instructional programs of the MTU. The Academy of Sciences' position is that their institutes should be kept separate from existing university programs and combined into a Mongolian institute of technology. Some resolution of this debate is needed soon so that the resources for technical education at the postsecondary level can be used efficiently to serve the needs of both employers and students.

129. The second step is the retraining of faculty. Many of the existing faculty received their training under the Soviet system of higher education. Further, because of problems with access to scientific materials, it is increasingly difficult for them to keep up with advances in their areas of specialization. One alternative is to send faculty abroad for additional training. A second is to bring in scholars from abroad to conduct lectures and seminars in Mongolia, probably the more cost-effective alternative. A third alternative is to establish exchanges with partner universities in other countries.

130. Improving facilities, equipment, and libraries is the third required action step. There should be a careful inventory of facilities and equipment held by each postsecondary technical institution; this inventory then should be reviewed by the MTU administration for the purpose of targeting areas needing upgrading as well as to identify unnecessary duplication. The initial focus should be on resources for instruction, with facilities to be used primarily for research a secondary concern, at least in the beginning stages of this process. A similar inventory should also be done of library holdings in each technical institution. Ideally, these holdings should be catalogued on an electronic data base that would be accessible to users and researchers. These types of inventories can be used to identify priorities and solicit donor funding. Institutions

and the government will also have to work together to develop the capacity to provide continuing funding for facilities, equipment, and library support.

131. The fourth action step is to improve scientific communication between the MTU, its system of postsecondary institutions, and the international research community. Because of the high costs and relatively low coverage of books and journals, there should be an assessment of the feasibility of establishing a link into an international computer communications network used by scientific researchers that would be accessible via computer modern over the international telephone system. This would greatly facilitate the exchange of research and scientific information with colleagues in other countries. There should also be an exploration of the feasibility of purchasing electronic data bases on CD-ROM technology that would provide inexpensive access to current scientific information. Related to this is the provision of support for faculty to reproduce the results of their research and curriculum development work. Access to secretarial staff, word processing, and facilities for printing and duplication is an important resource for these activities.

132. All of these changes can be begun over the five year time frame of the Master Plan. How far any change will proceed will depend upon government's support for the technical education reform and the amount of financial and technical assistance forthcoming from the donor community for this effort. However, the establishment of the legal basis for the reform and the initiation of the structural changes in postsecondary technical education are both changes that can be begun immediately and without any external support.

PROJECT #III-3: Integration and Privatization of Vocational Training and Retraining Outside General Secondary Education

133. With the introduction of basic vocational skills within general secondary education and the rationalization of postsecondary technical education under the leadership of the Mongolian Technical University, the remaining key issue in vocational and technical education and training is how to deal with the vocational training programs and institutions of the Training and Production Centers (TPCs) and the secondary vocational schools. A three-part solution is proposed given the problems of low instructional quality and relevance, and the lack of public funds to engage in substantial institutional enhancement:

- the first alternative should be to promote privatization of these institutions wherever feasible and to encourage public and private employers to take a greater responsibility for specialized and advanced vocational skill training;

- second, selected institutions should be made available to the MLPP for conduct of retraining for adult workers who are unemployed or who remain employed but whose skills need updating or new training;

- and third, the remaining institutions should be integrated into a system of regional training with one institution for every two to three aimags.

134. Staff, facilities, and equipment in the present VTE institutions are increasingly underutilized due to declining enrollments. The vocational and technical system is not effectively using these resources to promote either employment or national productivity. Therefore, it is recommended that a process of reduction in the number of public vocational programs be initiated and of integration of their functions within the institutions that remain. Similarly, the multiple use of the remaining facilities should be expanded. These facilities could be used for many purposes --instruction, school-based production or service oriented enterprises, private sector operations, individuals pursuing avocational interests, and nonformal education activities. All options, including full privatization of some of the existing facilities, should be explored and encouraged.

135. A priority need will be to take an inventory of facility utilization by location, type, size, equipment (type and condition) and suitability for multiple use. A second step would include a comprehensive analysis of instructional needs within the vocational and technical training system and the resulting requirements for staff. After having identified the training needs vocational training is to serve, an analysis comparing current needs and available facilities should be conducted. Discrepancies between what space is needed for training and what is available should be noted. It will then be appropriate to promote actively the availability of the facilities no longer to be used by the system.

136. While the number of institutions is being reduced to a set that more closely corresponds to the number required to meet the projected need for vocationally trained graduates, it will be appropriate to make three changes in the current instructional approach. First, the number of specializations should be drastically reduced and a new focus placed on generalizable knowledge of relevance to many forms of employment. Second, the best teachers and managers should be retained and relocated, if necessary, to the remaining training sites. In the same manner, equipment and materials should be concentrated in the remaining programs. And third, the new curriculum should be oriented toward a regional emphasis. The new vocational institutions should become a regional development resource by building close working relationships with the employers in their regions and organizing training that serves the employer's needs.

137. Action Steps. The integration of vocational facilities is an inevitably painful task but no more painful than to continue to expend government funds on training activities that benefit neither the student or society. Four action steps are required. First, the MOSE and the Ministry of Labor and Population Policy (MLPP) must resolve the confusion over the responsibility for training activities. One part of the law gives the MLPP "responsibility" for training while another gives the MOSE the control of the training institutions. This confusion is best resolved by the two ministries agreeing on a collaborative approach to the vocational subsector. If the two ministries cannot agree, then legislative or executive action to resolve this problem will be required. Little progress on rationalization of the vocational system is likely until the responsibility for management of the system is clarified.

138. Second, the inventory of institutions and personnel must take place. Third, a recommended system structure should be decided upon, taking into account the regional and national training needs of Mongolia and the low level of public funds likely to be available for vocational programs. And, fourth, the facilities no longer being used for vocational institutions should be converted to other social uses or privatized. The result of the successful completion of these steps will be a smaller but more efficient system that Mongolia can both afford and benefit from; neither is true of the present system.

139. Five steps are necessary for curriculum reform in VTE institutions. First is the assessment of the education and training needs of business, industry, and government. Second, teachers will be asked to review and revise their courses of study. Through this activity, teachers would receive instruction and practice on how to develop curriculum for both training and retraining of workers. Third, institutions will be encouraged to provide students with an improved orientation to work and career planning. Students reportedly are without sufficient guidance about the realities of different career options. With the movement to reduce the degree of specialization and to increase the amount of time students spend in general vocational skills preparation, it seems appropriate to engage in this activity to strengthen students' general knowledge of occupations while at the same time facilitating career planning. Also, efforts should be made to ensure that gender equity is adequately addressed in the orientation and career planning programs.

140. Fourth, vocational institution staff will require inservice training to prepare them to play their proper role in the curriculum revision process. Both teachers and administrators could be provided with instruction on curriculum that addresses four categories of instruction -- materials and products, information, power and energy needs, and systems integration. They could be provided with opportunities to experience selected segments of a prototype program in practice and then encouraged to adapt relevant aspects to their own situation. And fifth, school officials will need to examine the formal workforce education structure in terms of how will it performs as an effective school-to-work system. Here, the current system would need to be examined in terms of the following components:

- specific training goals that are endorsed and supported by students, parents, and the employers;

- a strong base in core subjects (mathematics, science, and language);

- direct and active involvement of local employers in career guidance, curriculum development, on-the-job training, teaching, skills certification, and job placement; and

- certification of students based on demonstrated competencies relative to skill standards endorsed by employers.

ACTIVITY IV – OVERVIEW

ISSUE: Out-of-school youth and adults with skills irrelevant to the new society must be educated and trained/retrained.

STRATEGY: Provide appropriate learning opportunities for out-of-school youths and adults.

OBJECTIVES:

- Innovative approaches combining formal, nonformal, and nontraditional methods created
- Nonformal education activities coordinated
- Nonformal education experiences collected, evaluated, made available

PROJECTS:

1. Delivering improved literacy, numeracy and necessary lifeskills to youths and adults.
2. Providing information on social issues through nonformal and distance education.

ACTIVITY IV: PROVIDING APPROPRIATE LEARNING OPPORTUNITIES FOR OUT-OF-SCHOOL YOUTHS AND ADULTS

CONTEXT AND JUSTIFICATION

141. The provision of learning opportunities for young people who are outside the school system and for adults who find that their skills are no longer appropriate for daily life or the labor market will be one of the major challenges faced by Mongolia's EHR sector over the next five years. Out-of-school youths include those who are dropouts from the present system or who have not been able to take advantage of the opportunity to participate in formal schooling. The adults who require retraining include the unemployed, the employed workers whose productivity has declined as technology has changed and new production practices have been introduced, and all adults who face new challenges as a result of modernization and the changing informational needs of a democratic and free market society.

142. Providing education and training opportunities to these groups will mean facing all the normal barriers to formal education and training plus the additional demands of dealing with adults and youths in rural locations and adults who may have to be retrained as part of inservice or part-time activities. Learning programs for out-of-school youths, retraining for adults, and the provision of basic cognitive and life skills will require innovative approaches in content and delivery of instruction. While the majority of the project work in this area will use nonformal processes to deliver formal education and training, the effort to help out-of-school youths and inadequately trained adults will allow Mongolia to design a blend of formal content and nontraditional and nonformal delivery methods into a uniquely Mongolian approach to this challenge.

143. Comprehensive curriculum does not (and probably should not) exist in the nonformal education subsector. The very nature of the subsector demands specificity in the courses of study to be made available to users. These courses of study must be flexible to meet the varying needs of people in a variety of different locations and at different times. Nearly all ministries are engaged in some form of nontraditional or nonformal education activity for their constituents. A variety of nonformal education activities are occurring independently and often without coordination. The quality of these activities may be improved and better use made of limited resources by establishing a mechanism for coordination of these efforts. Through such coordination all parties can learn which methods work best, what comprises a successful intervention, and which materials are most effective. Much remains to be learned about the this subsector and its linkages, methods, teachers, and materials.

144. Two major sources of experience exist for these nonformal education efforts. First, the Gobi Women's Project has accumulated valuable experience in meeting diverse learning needs in various rural settings. Second, the decentralization of education has meant that many aimags and somons have begun to experiment with alternative means of delivering formal and nonformal instruction. It is critical that these lessons be collected, evaluated, and made

available to those who will design the new content and delivery systems for aiding youths and adults.

145. While the types of programs and their means of delivery will differ among the two populations of youth and adults to be dealt with in the following project proposals, the two populations are similar in that the present EHR system has failed to meet their needs. Whatever innovative techniques evolve in meeting these demands, the adaptation of the traditional education and training system to these populations should produce much new information that will be of use also to the traditional populations served by the formal education and training activities.

PROJECT #IV-l: Delivery of Improved Literacy, Numeracy, and Necessary Lifeskills to Youths and Adults

146. Before beginning a major new program of instructional delivery, the first step should be to inventory the many programs and activities that ministries, other government agencies, and private organizations already have for reaching, influencing, teaching and training out-of-school youth and adults through means other than formal schooling. Learning resources developed by these activities could then be catalogued and ways of combining the resources and of providing common services could be examined. One necessary activity is formation of a national resource center for nonformal and continuing education so that the resources necessary for the planning and production of required education materials could be available to all programs and the experiences of the various programs shared. Continuing education here includes the basic skills of literacy and numeracy in addition to such lifeskills as health, family planning, nutrition, sanitation, financial management, and other topics to be determined by needs assessment procedures. As these learning needs are met, other forms of continuing education (related to advanced educational skills, employment, and entrepreneurship) can be introduced more effectively.

147. This national program of continuing education could include a broad range of interests, encompassing nonformal and adult education activities. Of special concern, however, in the general education subsector will be the means to reach nonattenders and school dropouts with continuing education. One alternative might be to provide home study materials for children of nomadic families, easy-to-use self-study materials with clear instructions for parents a~ to how to guide the children through the materials. Most nomadic families have one or more members educated at eighth grade or better and these could help the children with their home study materials. The children, in turn, could be encouraged to attend workshops arranged from time to time in somons near where they are located for help from trained teachers and for evaluation of their progress. Although such home study materials would be most useful for the nomadic families, other families in rural or urban areas who for one reason or another take their children out of school may find the materials useful. These materials can be taken from, or adapted from, the home and small-school materials to be developed for rural formal schools. Potentially, this is an excellent example of the Master Plan's goal of building integration among the individual project activities.

148. Other elements of a national program of continuing education, of course, would involve innovative ways of attracting older dropouts and adult learners into evening classes in somons and cities, possibly using space and teachers made redundant by the shrinking of the formal education system, and by using youth centers under the National Children's Center, presently within the Ministry of Labor and Population Policy. A more basic policy issue is whether the youth centers would not be more appropriately placed within the MOSE with consideration given to the MLPP's continued access to these resources for its adult retraining programs.

149. Action Steps. The management of this project should be in the MOSE but an emphasis should be placed on building linkages with local administrators and school and nonformal resources in the aimags and somons. A great emphasis must be placed on establishing effective coordination mechanisms; much of the training, curricular reform, and instructional materials development discussed for basic and general secondary education will be of direct applicability to this project. The project cannot be allowed to engage in duplicative activities to those already in effect in the formal sector. The emphasis should always remain on delivery of instruction and the creation of a process of providing continuing education opportunities for any youth or adult in need of basic skill training.

150. Four related but distinct steps are involved in implementation of this activity: (1) identification of needs and mobilization of resources; (2) design of intervention programs to serve the needs of youths and adults while maintaining and improving existing incentives for young people to stay in school; (3) preparation of instructors and of instructional materials; and (4) initiation of instruction. Because of limited resources and uncertainty concerning the appropriate instructional content and methods, a trial effort in a set of rural somons should precede a national dissemination program. If evaluation of this project is positive after two years, then a phased national implementation could commence.

PROJECT #IV-2: Providing Information on Social Issues through Nonformal and Distance Education

151. The rapid changes of the last five years have disrupted many of Mongolia's traditional structures and systems. The effects of the social, political, and economic changes have raised concerns about the possible loss of traditional values and the need for governments and individuals to make difficult choices. Often these choices must be made with what is less than complete information about the costs and benefits of the alternatives being considered. Simultaneously, new financial arrangements are being introduced, legal rules are undergoing reform, and a multitude of other changes are occurring which test each individual's ability to adapt.

152. To deal with these needs two major things need to happen. First, informational programs must be prepared that provide the core information Mongolian citizens require on the topics of legal rights and responsibilities, health issues, education and training opportunities, etc.

Part of this information should be prepared specifically to meet the information needs of children. Second, a system of delivering this information to groups and individuals must be devised. Mongolia is fortunate to have a largely literate population and good coverage of radio and television broadcasting. However, reception is limited in certain rural areas and the difficulties of transport and communication restrict the ability at present to use interactive nonformal methods. These interactive methods have been shown repeatedly to be more effective than simple one-way transfers of information.

153. The Education Law of 1991 makes mention of the need to provide education through formal and nonformal means; however, little has been done to organize and develop the nonformal education subsector. There is a need not just to develop a national policy on nonformal education that clearly specifies mission, goals, priorities, structure, roles and responsibilities but to see that resources are made available to support the activities. Once policy has been established, supporting activities must be implemented to create a program of nonformal education for those Mongolians not served by the formal sector. Particular emphasis should be given to nonformal education programs that address basic education needs.

154 The first supporting activity should investigate and document the present status of nonformal education in Mongolia and elsewhere. Those who provide nonformal education in all sectors should be identified and described. Special emphasis should be placed on identifying and describing the linkages between and among providers of nonformal education. The extent to which each is linked to the other should be studied and described in detail. The results of this activity should be compiled, documented and distributed nationwide to those engaged in or involved with the delivery of nonformal education.

155. A second supporting activity should build upon what was learned in the assessment of the nonformal education subsector and develop a structure and organization for coordination of nonformal education in all sectors. The roles, responsibilities and even job descriptions of "key" players should be documented and distributed to appropriate individuals and organizations in both the public and private sectors. Identifying, analyzing and documenting good "practices" in the delivery of nonformal education is a third optional activity. Study of nonformal education practices should focus on what methods work best, what characteristics are displayed by successful teachers and facilitators, and what materials are most effective. The results of this effort should be compiled, documented and distributed nationwide.

156. Nonformal methods of delivering information can include the technologies of distance education. Distance education is a system of education in which organized learning opportunities are provided to facilitate learning without regard to the time and location of learning. In "formal" distance education, the learning opportunities are designed to be equivalent to those available in formal schooling. In "nonformal" distance education the goal is to provide information to participants and to motivate them toward changes in attitudes and/or behaviors. In-service training and extension programs (for example, in agriculture, technology, or health) are popular applications of the distance education approach.

157. Three areas of special need for distance education in Mongolia were identified by the recent UNESCO consultant team on this topic:

- the need to reach school dropouts who live outside easily accessible areas;

- the need for outreach programs 10 meet the information needs of nomads; and

- the need for education of all citizens about their rights and responsibilities during Mongolia's transition to a democratic and market-based society.

With Mongolia's difficult infrastructure conditions, especially for travel and telephone communication, the formal education system is constrained in meeting these needs. Distance education alternatives are one way of overcoming these constraints but the distance education must be carefully planned or else these same constraints over travel and communication will undermine the distance education efforts.

158. It appears that radio is the most effective medium for distance education in Mongolia at the present time. Radio has a 90 percent coverage of the land area while television coverage is more restricted to urban locations and postal systems are extremely undependable outside urban locations. Radio programs could be distributed over the air or as cassettes. The latter provides greater flexibility and opportunity for self-learning, of course, but encounters substantial distribution problems. A careful analysis of the feasibility of cassette distribution should be conducted comparing the greater benefits of this alternative with the more serious problems (and higher cost) of the required distribution network.

159 Action Steps. A major activity to support the development of nonformal education would be the establishment and operation of a national clearinghouse or resource center for nonformal education. It could maintain a national registry of nonformal education activities including planned, ongoing, and completed nonformal education projects. This clearinghouse or center could further maintain documents pertinent to the administration and delivery of nonformal education activities. It also could serve as a valuable source of teaching materials for those who must deliver instruction in the nonformal education arena. This same organization could serve the needs for both this project and Project #IV-l.

160. The second need is for a designated distance education institution in Mongolia to create links with a more developed institution in another country. From this linkage, Mongolia could gain the experience and the staff resources of its sister institution. Also, a distance education task force should be formed including representation from all relevant ministries and with the secretariat located in the MOSE.

161. Third, a trial distance education program should be initiated in a region that can be serviced by a single regional radio transmitter. The content of the distance education broadcasts should be of three types:

- direct broadcasts to classrooms on enrichment and remediation topics with which teachers may be least well prepared;

- provision of inservice training for administrators and teachers (to supplement the work of the local methodologists); and

- broadcasts to homes on topics of agriculture, health, citizenship, the benefits of continued education, and other topics relevant to the region's population.

While initially these broadcasts will be unidirectional, every attempt should be made over time to introduce interactive instruction into the distance education methodology.

162. Finally, an evaluation of the trial regional program should be conducted. Consideration should be given equally to the costs and benefits of the program. A recommendation should be produced as to the feasibility of national or continued regional use of distance education, the preconditions and concurrent requirements for its further dissemination, and the schedule by which broader use of distance education should be introduced in Mongolia.

ACTIVITY V – OVERVIEW

ISSUE: The new society requires people experienced in administration, management, finance and law.

STRATEGY: Meet the needs for improved educational management.

OBJECTIVES:

- Business executives, government officials and educators provided with management skills
- Effective budgeting, accounting and monitoring systems established
- Equity and efficiency achieved in resource allocation and use

PROJECTS:

1. Strengthening management skills within the EHR sector.
2. Developing accounting and norm-based budgeting systems to promote monitoring and analysis.
3. Reforming EHR finance to promote equity and cost-effectiveness.

ACTIVITY V MEETING THE NEEDS FOR IMPROVED EDUCATIONAL MANAGEMENT

CONTEXT AND JUSTIFICATION

163. When the financial and technical support from the USSR was terminated and the favorable import-export trading system on which Mongolia had become so dependent collapsed, its 70-year-old educational enterprise suddenly was forced to become more self sufficient. At all levels, the system had been supported by foreign experts and advisors. Thus, few Mongolians were experienced in ministerial, university, or local school administration, and virtually no Mongolians had been formally trained in the performance of management functions. Yet, the future of Mongolian education will depend, in large measure, on how well the entire educational system in all of its parts and at all of its levels is managed. Similarly, maintaining the financial integrity of the system requires an ability to conduct a careful examination of the current role of the MOSE in accounting, budgeting, and finance. Few persons have the training or experience to do this at present. The success of the Master Plan's proposed reforms also requires an understanding of the principles on which the reform of education is based and the laws and directives which are guiding the establishment of new management systems - systems of personnel management, information utilization, and financial control.

164. In support of democratization and the transition to a market economy, the Education Law of 1991 authorized, and the Cabinet directed, the transfer of many responsibilities relating to the administration of the public schools to local authorities in the cities and aimags. Under this decentralization, the local systems are now financed from a central budget and from aimag and somon government budgets. The government also encourages educational authorities to generate a part of their own revenues. Decentralization also means that local authorities appoint school principals who, in turn, are now responsible for recruiting, hiring, and monitoring all teachers. Principals' Councils, Teachers' Councils, and Students' Councils are also to be formed. Major responsibilities which were once the province of the former Ministry of Education now reside in the hands of the Education Officer of the Social Policy Department of the local aim aimag. With no training in the management functions of planning, organizing, leading, and controlling among school officials, and with little experience in administering local systems without the firm central control of former MOE officials, there is much confusion - locally and in the MOSE.

165. At the level of higher education, the policies of decentralization and democratization have generated a notable increase in the institutional autonomy of public colleges and universities, and in addition, provided for the establishment of wholly autonomous, self-supporting private institutions. At the same time, these policies caused a fragmentation of higher education to occur by encouraging the establishment of many small institutions. Providing the institutions of higher education more freedom to plan their own academic programs, decide upon their own enrollment goals, develop their own research policies, charge tuition fees, and raise funds from other nongovernmental sources has created a whole set of new

and unfamiliar pressures for rectors and their administrative staffs. Few of them have the managerial expertise to organize their own admissions offices, student financial aid offices, placement offices, and other support services, or to respond to student demands for new academic and professional programs, or to initiate programs of institutional and programmatic self-study, peer evaluation, and accreditation. Neither are they equipped to install norms-based planning and budgeting procedures, introduce fund accounting systems, or establish broad-based programs of public accountability.

166. At the top level of the educational structure, the need for training among the staff of the MOSE stems mainly from the fact that the Ministry has been lost most of its former operational duties. It is now being held responsible for: (1) basic planning and policy-formation functions, including master planning and policy analysis at the national level, and the provision of planning support services at both local and higher education levels; (2) program approval and institutional development; (3) system-wide personnel development; and (4) evaluation and assessment services for schools, colleges, and universities.

PROJECT #V-1: Strengthening Management Skills Within the EHR Sector

167. Most MOSE officers, together with a majority of college and university administrators and faculty members, as well as city, aimag, and somon authorities and school principals and headmasters, are all engaged in the management of a process which is ushering in a new socioeconomic system. In addition, the drive to convert Mongolia's command economy to a free market one is generating a growing demand for managers who have skills to operate in market-oriented organizations. However, too many business executives, government officials, and Mongolian educators are being asked to perform their jobs with inadequate or obsolete management skills. The rate of change in the economy and in the government places a premium on the need for management education and training.

168. At the local level, the decentralization of educational structures and responsibilities is central to the changes that are taking place in educational administration. However, there are different interpretations of the meaning of the government's decentralization policies. Some officials believe decentralization to mean the delegation or sharing of responsibility (especially financial responsibility); others interpret decentralization to mean the transfer of both responsibility and authority to local agencies. Clarification is needed if management procedures and management training are to support the decentralization process. Whatever the outcome of this continuing debate, however, there should be agreement on the importance of school-centered management as the basis for the decentralization of the public schools. Thus, the management training of school administrators needs to focus primarily on the position of the school principals, on the definition of their new duties and tasks (such as the recruitment and retention of teachers, the planning of curriculum development at the local level, and the establishment of new relationships with local government authorities, the "service" departments of the MOSE, and with the Pedagogical University), and on the management skills and knowledge required to operate a local public school outside the confines of the agencies of centralized planning and control.

169. However, the training of the education officers of the Social Policy Departments of the local aimags is also needed. While school administrators will require instruction primarily in issues of curriculum, personnel management, and instructional support, the local administrators will need more traditional public administration and finance training. This suggests that the two groups of administrators may require different courses and/or different institutions to deliver the training. Much of the initial research and planning for such a training program has already been completed as part of the UNESCO project on the training of school and local education administrators.

170. Under the government's new policy of decentralization, the institutions of higher education have been granted a great deal of autonomy over their own affairs. They now have more control of their own academic programs and research activities and have been able to negotiate important parts of their budgets directly with the Ministry of Finance. They are also able to generate additional funds on their own, including tuition revenues, fees, and research grants. The institutions are moving toward an easement of admissions quotas and to greater autonomy concerning student enrollments. They are also beginning to examine the academic criteria required for self-study, peer evaluation, and accreditation. However, nearly all of the administrators of the colleges and universities desire additional management expertise and experience to operate in this decentralized environment.

171. Moreover, the administrative structures of the higher education institutions often are very traditional, based on the Russian model. In each case, the Rector, who is appointed by the Minister of MOSE, is vested with broad, far-reaching power. To modernize higher education, new management skills are needed in such areas as long-range and strategic planning (at university, college, department, and institute levels), policy development at all levels, academic program design and development, administration of student and faculty support services, and the ongoing management of resources through planning, budgetary, allocation, and accountability phases. Given the autonomy that it possesses, each institution should be encouraged to take charge of the management of its own affairs.

172. Many of the training needs of the MOSE have already been determined by the actions of the State Khural and the directives of the Minister in adopting and implementing the national policy of decentralization in education. By delegating responsibilities for the administration of the public schools to the cities and local aimags, transferring autonomy to the colleges and universities, facilitating the establishment of private institutions, and generally promoting a more democratic, open system of education throughout the country, the MOSE has been divested of many, if not most, of the operational functions performed by the former Ministry of Education. Even the MOSE's Institute of Curriculum Development and Teaching Methodology has been relocated to the Pedagogical University. The result is that in the new democratic Mongolia, with no central planners to issue directives on educational policy and procedures, the MOSE is now responsible for undertaking the basic planning analysis functions required, at all levels, to guide and lead the educational establishment. The lack of experience of its staff members in participating in planning processes (and the difficulties they would encounter

in attempting to provide school principals or university administrators with planning services) bears witness to the urgent need for management training. Educational planning is only one major management function in need of attention. The others include: educational policy formation and analysis; educational development, including programmatic improvement, program approval, and staff development; and student assessment, institutional accreditation, public accountability (both financial and academic), and the maintenance of academic standards. It is around these four major management functions that the new organizational structure of the MOSE has been built (See Activity VI below).

173. Mongolia has the basic institutional capacity to meet at least some of these training needs but it is just developing and, at present, is somewhat fragmented. It is to be found in such institutions as the Economic College, the College of Commerce and Business, the Institute for Administrative and Management Development, and the Mongolian Technical University. What is lacking is outside assistance to provide the supplementary resources required to strengthen that capacity and to focus it in the right direction. As a first step, the institutions of higher education which offer management training must join forces, enter into talks for the purpose of reorganizing their faculties and their programs, and prepare themselves for greater cooperation and possible consolidation. The inefficient duplication of human and physical resources, coupled with the vital importance of management training to the educational system and to the nation, make the rationalization of business and public administration a matter of top priority.

174. Action Steps. First, to help provide the necessary management training, the Committee on the Rationalization of Higher Education should consider recommending the establishment of a single College of Business and Public Administration as an integral part of a reorganized National University of Mongolia and attempt to redefine the role and mission of the new institution. This consolidation could combine and unify the resources of the Economics Institute, Economics College, College of Commerce and Business, and the management resources of the Technical University and the National University of Mongolia. It would also incorporate all of the resources of the IAMD (including its extension centers) which currently operates outside the domain of the MOSE and reports directly to the Cabinet. One of the main reasons for creating a large faculty of management is to permit a portion of the most promising members to obtain financial support and take a leave for study and travel abroad every year or two. During the next five to ten years, concerted efforts should be made to obtain the necessary funding and recruit and appoint visiting professors to key positions in the College.

175. Second, the new College should offer regular diploma, bachelor's, and master's degree programs in (1) general management; (2) middle management; and (3) advanced management - with priority specializations possible at each level, in such areas as banking, production management, and international business. Special tracks should also be developed and offered in such areas as public accounting and finance (in collaboration with the Ministry of Finance).

176. Third, the college should arrange special training programs for the preparation of such groups as: (1) entrepreneurs (in collaboration with the Mongolian Chamber of Commerce and Industry, as outlined in Project #11-4 above); (2) local city, aimag, and somon officials; (3) the trainers of the trainers of local school principals and headmasters (in collaboration with MOSE and the Pedagogical University); (4) college and university officials; (5) university rectors; (6) MOSE senior staff members; (7) government ministers; (8) other government officials; and (9) CEO's.

PROJECT #V-2: *Development of Accounting and Norm-Based Budgeting Systems to Promote Monitoring and Analysis*

177. A national or institutional budget is first and foremost a policy statement that summarizes and prioritizes objectives, describes the activities, inputs, and processes that will be used to meet those objectives, as well as the estimated receipts and expenditures. The credibility of the budget depends in large part on the transparency of the budget process. Where the process is unduly complicated or there is substantial uncertainty about the amount or sources of income and the level and effect of expenditures, the process deteriorates from a planning exercise to a simple request for funds unaccompanied by appropriate forms of justification.

178. In contrast to a budget or budgetary system, an accounting system is simply a budgetary tool used to record and report income and other assets and expenditures, track special use or project funds, and provide the information needed to draft or amend budgets. While income and expenditure information is required for budget formulation, it is not sufficient for budget justification. Strategic planning requires that budget justification be based on the integration of information on receipts and expenditures with institutional information on the effectiveness of organizational activities to provide a complete picture of the status of the institution, how existing resources are utilized, and the relevance of the proposed budget to the stated objectives. In the planning and budgeting process, information on the ingredients of per student costs is more relevant than is information on total costs. Total costs simply indicate whether an activity or set of activities, as currently defined, is affordable. Per student cost information, when combined with even minimal descriptive performance data, permits identification of opportunities for improving efficiency. This could result in either containing costs without sacrificing objectives or using existing levels of resources in a more effective way. In sum, the optimal budget process is one which is clear and straightforward, requires full justification of budget proposals, and provides government with the data necessary to evaluate the relative effectiveness of its investments both within and across EHR institutional types.

179. At the present time, the Government of Mongolia's accounting system consists of a single form used by all institutions, public or private, profit or nonprofit. Particular types of institutions are required to complete supplementary forms. While the use of a single form with special annexes may have served governmental needs well under the former highly centralized command system, it is not appropriate in the present decentralized and increasingly complex system. The basic form, best suited for private sector enterprises, is inappropriate for public nonprofit institutions such as postsecondary institutions or schools (or aimags) to use as a basis

for determining per students costs, identifying areas of potential savings, analyzing trends in incomes, costs, or savings, etc., forecasting, or tracking project expenses. At the same time, the form is ill suited to the needs of the ministries for timely and reliable data on system performance since there is no easy way to combine the quantitative data on receipts and expenditures with other indicators of system performance (production of graduates, student achievement, etc.).

180. The major need in this area is for a new and computerized accounting system. The system should meet the needs not only of the Ministry of Finance but also those of the aimags, the institutions, and the MOSE. The system can be the same for all institutions but the forms should be tailored to the needs of different types of institutions. In this case, the forms for public, nonprofit institutions would differ from those for either public or private profit-making enterprises. While the adjustment of forms by the type of organization may have presented substantial barriers to the adoption of such a system in the past, the computerization of accounting will make it exceptionally easy. Computerized systems offer a menu of basic charts of accounts, differentiated by type of organization as well as the option of simply creating one or more new charts. Moreover, the new budgeting software programs permit integration of both payroll and cost functions in the accounting routines. Finally, receipts and expenditure data can be transferred into a spreadsheet and combined with other system indicators to make judgments about institutional or system efficiency.

181. Public education institutions in Mongolia currently operate in an environment of high uncertainty. As they move through the transition from total dependence on government to partial self-sufficiency, they have little notion of what their total income will be, how to maximize their allocation from government or other sources, or, in some cases, when they might receive their government allocation. At the same time, the basis for government allocations to individual institutions remain unclear because of the lack of specific norm-based allocation criteria. Primary and secondary schools, with the help of an accountant who serves several schools, simply base their budget proposals on the past year's expenditures. There is little evidence of real planning or justification of the budget in terms of institutional objectives or input norms. Equally important, there are no incentives built into the system for containing costs by combining resources in a different way or sharing services and there is a positive disincentive for accurately reporting nongovernmental income. Much the same is true of professional schools and higher education institutions, though these tend to have fewer disincentives for under-reporting income since they also operate under quotas for revenue from tuition paying students. In short, the budgetary process is one in which institutional managers, at all levels, simply bring their bills to the appropriate government office in the hope that they will be paid. The level of institutional planning that this suggests is diametrically opposed to that which is needed to ensure that current quality is maintained at the least cost.

182. Before international accounting standards can be adopted and implemented, however, a number of issues need to be resolved in law. The most important of these is the tax status of educational institutions and the ownership of the buildings and land used by public higher education institutions. In most countries, educational institutions, public or private, are considered non-profit organizations and are exempt from corporate income taxes. At the present

time in Mongolia, even the tuition of state sponsored students at public higher education institutions is taxed. This makes little fiscal sense and results in an unnecessary level of budget and accounting complexity for the institution.

183. The second issue of property ownership has emerged only in the last few years. In the era when public higher education institutions were subsidized completely by government, it did not matter whether buildings and land were recorded as Ministry or institutional assets. Since these institutions now are partly self-financed, the issue should be resolved.

184. As indicated earlier, the necessity for an improved budget process and system monitoring by the aimags and the MOSE requires that cost data are combined with other indicators of system performance to analyze system efficiency and to forecast system needs. Efficiency concerns at this point in time are paramount precisely because of the scarcity of resources. In periods of abundant resources, a certain margin of waste, however undesirable, can be tolerated. In times of austerity, however, there is absolutely no margin for misallocations. The inefficient use of resources proportionally reduces the capacity to meet system and institutional objectives. It is important that administrative personnel at all levels are trained in basic forms of cost analysis. For example, per-student or cycle (per-graduate) costs can be examined under a variety of assumptions about the use of personnel, space, and materials. Since this type of analysis readily can be done using the newer accounting software, either alone or in conjunction with computer spreadsheets, there are no other additional hardware or software requirements.

185. A norm-based accounting system is the primary mechanism for establishing fiscal accountability, and, in the case of government, accountability for the investment of public funds. Consequently, where institutional accounts are not audited, there is little public accountability and implicit incentives may exist for the over-reporting of institutional need and the under-reporting of institutional assets or receipts. At the primary and secondary level, schools share accountants who assist them in preparing their budget proposals, while postsecondary institutions have their own accountants. Since these individuals are institutional employees, they cannot certify the accuracy of their own accounting statements. What is required is a simple external review of both institutional accounts and the statistical data on which norm-based governmental allocations will be based (numbers of teachers, students, etc.). This type of audit could be made the responsibility of the educational accountants in consultation with the local educational officers in the aimags (for schools) and MOSE accountants (for postsecondary institutions). While it is not necessary that every institution is audited every year, every institution should expect to be audited at any time without prior notification.

186. Action Steps. First, the MOF and MOSE, together with institutional managers, should collaborate on the development of an accounting format that serves both planning and reporting needs. Second, the MOF accounting software should be adapted to the new forms or a new accounting software program selected. Third, educational accountants in the aimags and senior accountants in postsecondary institutions should be supplied with the relevant hardware and software. At a minimum, this would include the following:

- An IBM compatible 386 or 486 computer,
- MS-DOS 3.1 or higher,
- At least 640k memory,
- At least one hard drive and one floppy disk drive,
- A color monitor,
- A DOS compatible printer, and
- The accounting software (including or complemented by spreadsheet software).

However, to facilitate the communication of information, where telephone lines are reliable, modems should also be provided so that the educational accountants in aimags can transfer data electronically to the relevant ministry in Ulaanbaatar. Fourth, given the staff reductions in the ministries in the past few years, it is also recommended that the MOSE purchase scanners (and relevant supporting software) to allow the financial forms to be read electronically into its computers. In addition to saving time, this also eliminates errors due to the transposing of numbers in the data entry process. Obviously, the scanners could also be used to read other forms (the statistical reports on schools and examination scores, should an examination system be created). Finally, of course, training needs to be provided in using the new accounting forms and in using the supporting computer hardware and related software.

187. In the interest of improving the transparency of the budget process and promoting institutional planning, a number of steps need to be taken. First, budget justifications based on planning which shows evidence of attention to cost containment issues should be required on all levels. Second, the central government should provide financial rewards to aimags, somons, or postsecondary institutions who, through reorganization, substantially reduce their fixed costs or operating expenditures. Third, in the case of primary and secondary schooling, somons and aimags should clarify the basis for their per-student allocations to schools, while the relevant ministries should clarify the basis for their distributions to the postsecondary institutions under their jurisdiction. Fourth, an agreement should be reached whereby postsecondary institutions that succeed in raising more than a certain percentage of their base expenditures are not penalized by the proportional reduction of their governmental allocation. This agreement, of course, would mean little without the removal of any existing quotas on fee paying students. These recommendations assume, of course, that the accounting system has been redesigned so that it can be used as a tool for both planning and for the evaluation of the effects of policy changes.

188. The MOF and the MOSE, in collaboration with system managers, should decide which types of efficiency analysis should be done routinely and then train educational accountants at the aimag level, institutional managers, and MOSE staff in those forms of analysis. The MOF and MOSE also should collaborate in the development of a manual for auditing institutional accounts and train the appropriate personnel in the use of the manual. They should help local personnel establish an appropriate system for selecting the institutions to be audited each year and for reporting the results of the audits to the appropriate authorities.

189. Tax laws should be amended to distinguish between profit and non-profit organizations. This would have the effect of exempting institutional tuition income from

taxation. In addition, the education law should be amended to address the issue of the legal ownership of the buildings and land now used by public higher education institutions.

PROJECT #V-3: Reforming EHR Finance to Promote Equity and Cost-Effectiveness

190. Educational finance policies set the parameters for the equity and efficiency of the educational system. Equity in this context refers to whether the allocation of resources to institutions and individuals is perceived as fair. Efficiency, of course, demands that the methods (e.g., tuition charges, student loans, governmental allocations, etc.) selected for financing institutions achieve the system's goals or represent the best use of available resources for goal attainment. Like budgetary policies, credible finance policies also must be characterized by clarity or transparency. This simply means that everyone must understand the basis for government allocations to institutions and/or students; that is, why some receive more or less funds than others.

191. Schools in some somons receive their proportionate share of the resources allocated to the aimag by the State Khural. The allocations of schools in other somons have been cut twice, first at the aimag level and then again at the somon level. These cuts represent local reallocations of educational resources to other sectors. The ability of subnational units of government to reallocate monetary resources is an important one since individuals at these levels (a) have the greatest knowledge of local problems and (b) are in a position to respond more quickly to such problems than can central government. At the same time, however, central government has a legitimate interest in ensuring that students have access to the prescribed educational program and that school administrators can plan on a certain minimum level of budget receipts. This suggests that the rights and responsibilities of local government to reallocate funds needs to be carefully defined.

192. The student loan fund is a remnant of the older manpower planning system that no longer can be justified since, in the current economic climate, even short-term forecasting of employee requirements is unreliable. An individual demand approach is better than a manpower approach in times of uncertainty, particularly if it is combined with broad rather than narrow skill training. First, such an approach transfers risk from government to the individual. Secondly, students who enroll in a postsecondary institution (and pay tuition) are well aware that their degree may not lead directly to a job in their chosen field but are permitted to use their own judgment about both the fields in which there are likely to be jobs and the skills that will be needed. Finally, the attraction of risk seekers to postsecondary education may well result in graduates better prepared to operate in a market economy than are the current sponsored students. In order to facilitate students' ability to invest in their own futures, however, it is necessary to establish a loan fund for individuals. In such a system, students would sign their own contracts with government, agreeing to begin repaying the loans once they graduate or otherwise discontinue their education.

193. Action Steps. Law or regulations should be drafted which establish the limit of an aimag's or somon's ability to reallocate funds. For example, lower levels of government might be given a ten percent leeway, that is, they can spend 10 percent more or less than the amount

allocated by the State Khural to education. Thus, in this example, if both aimag and somon chose to reallocate funds, the least a school would receive is 80 percent of the State Khural's allocation and the most it would receive is 120 percent of the allocation.

194. The current command system loan fund should be phased out. This can be done by identifying no new students after 1994 but continuing to support the students already in the program through graduation. Next, the MOSE should study the regulation of student loan programs in other countries and then propose the establishment of a fund that provides loans directly to students who qualify for admission to use at the institution and in the field of their choice.

ACTIVITY VI – OVERVIEW

ISSUE: The present MOSE structure may not provide the most efficient and flexible use of resources for the new HER system.

STRATEGY: Increase the efficiency of MOSE structures and operations.

OBJECTIVES:

- Role of the Inspectorate Board recast
- Achievement testing introduced nationwide to identify deficiencies in school systems
- Appropriate testing, evaluation and accreditation programs established for higher education
- HER information availability and use improved
- Greater planning, policy analysis role assumed by MOSE
- Appropriate councils, offices, departments established

PROJECTS:

1. Redirecting MOSE activities to encourage and evaluate the effectiveness of HER institutions.
2. Improve the information and planning linkages between HER institutions and employers.
3. Restructuring the MOSE to serve its new missions and roles.

ACTIVITY VI: INCREASING THE EFFICIENCY OF MOSE STRUCTURES AND OPERATIONS

CONTEXT AND JUSTIFICATION

195. As has been noted before, Mongolian society is in a state of major transition. Its educational system, in particular, is undergoing dramatic organizational change. The Ministry of Science and Education (MOSE) has been charged with (1) combining science and education; (2) decentralizing educational administration and transferring school management responsibilities to local governmental authorities in the cities and aimags; and *(3)* ensuring the mandate that institutions of higher education be granted greater autonomy and independence. Many of the Ministry's former operational functions and activities have been delegated or are being transferred to other agencies of government.

196. Despite these changes, including a significant turnover in its own personnel, the MOSE has retained the same basic organizational structure as that of the former Ministry of Education. What is needed is a comprehensive review to ascertain whether or not its overall structure provides the most efficient and flexible utilization of resources to achieve the policies which the government has set for the EHR system of Mongolia. All evidence points to the fact that, based on the Ministry's changing mission in the new government, several improvements can and should be implemented. Overall, for example, there is a need to differentiate between "councils" which are designed to give advice and counsel to the Minister, "staff offices" which are designed to provide services - mainly to other units, and those departments and offices which are designed to perform the MOSE's "line" functions.

PROJECT #VI-1: Redirecting MOSE Activities to Encourage and Evaluate the Effectiveness of EHR Institutions

197. The Inspectorate Board of Education, established in November, 1991, is a quasi-independent body reporting to the Minister which has not yet become an integral part of the operational or policy-making activities of the Ministry itself. Nevertheless, it has a seven-member board, and advisory council of 35 experts which meets regularly. It has six national inspectors, each of whom has three to five part-time inspectors, all of whom are working in the schools. In addition, there are 22 local inspectors stationed in all of the 18 aimags and four cities of Mongolia. With a staff larger than the entire MOSE, the Inspectorate is readying itself to carry out its perception of its mission: to establish and enforce the standards of Mongolian education at all levels - from kindergarten through graduate school. It is charged with the responsibility of setting levels of quality for teaching, curriculum, and administration and for monitoring and controlling all activities in the schools, colleges, and universities to ensure compliance with these standards. At present, it is employing examinations to measure student performance and by such measures to judge teaching competence. In the future, it is planning to administer standardized tests nation-wide at the end of grades one, three, six, eight, and ten. Also, institution-specific examinations are to be given to bachelor's and master's degree candidates. It is expected that

these measures will serve as the basis for developing national programs of licensing and accreditation for all educational programs and institutions, both public and private.

198. Based on current Inspectorate Board plans, it is clear that the proper use of standardized testing in evaluating students and judging classroom teaching, in setting licensing and accreditation standards, and in assessing curriculum content and teaching performance is not understood or appreciated. The MOSE must certainly concern itself with the academic performance of students and teachers, and with setting minimum standards for institutions and programs. However, standardized test scores can be misused, especially when the examinations are administered on a mass scale; and accreditation and Licensing can become arbitrary and tyrannical, especially without the proper nongovernmental professional controls; and the rigid enforcement of curriculum content and teaching standards can deprive teachers and administrators of individual expression and academic freedom. Student assessment can be a valuable tool in measuring individual progress and spurring performance, and it can also help teachers to improve their methods and classroom techniques. To avoid the imposition of another centralized, authoritarian system on the schools and universities, the role of the Inspectorate Board needs to be recast and its new mission carefully defined.

199. Action Steps. First, the present Inspectorate Board of Education ought to become a part of the reorganized structure of the new MOSE, and its Director should report directly to the Vice Minister. However, the agency's functions should be redefined; its Director should be converted from a line officer to a staff officer; and its title should be changed to Office of Evaluation Services. The Office's main purpose should not be to set standards on the basis of test score performance and attempt to enforce those standards by fining or otherwise coercing teachers. Rather, it should be to assist teachers, principals, professors, and rectors in the evaluation of student abilities and achievements, and in the use and interpretation of standardized test scores and other measures of academic achievement. It should provide expertise and assistance to classroom teachers in the preparation and use of examinations, and in the interpretation of test results by students and their parents. It should also work closely with local teaching methodologists in developing other measures of student evaluation designed to stimulate learning and improve teaching.

200. Second, the Office of Evaluation Services should be encouraged to follow through on plans to introduce a nationwide program of achievement testing in the public schools (excluding institutions of higher education), not for the purpose of setting national grade standards, but to identify deficiencies and weaknesses in various local school systems whose students may require remedial help or whose teachers may need specialized assistance in achieving the goals set by the curriculum. In this regard, the Office should assist the schools in setting their own rigorous standards, based on national norms, especially in the development of the basic skills of reading, writing, and mathematics, for students to meet.

201. Third, in higher education, the Office of Evaluation Services should collaborate with the Council of Rectors and individual colleges and universities in (I) the development of admissions testing and student evaluation for the various specialized areas of study, such as

agriculture, business/management, pedagogy, and engineering/technical studies; (2) the design of specialized achievement testing related to the awarding of bachelor's, master's, and doctoral degrees; and (3) the preparation of academic criteria and performance assessments related to the development of the programs of institutional and program accreditation which are adopted by the colleges and universities.

PROJECT #VI-2: Improving the Information and Planning Linkages Between EHR Institutions and Employers

202. With the ending of the command economy, it no longer is possible to disguise the overproduction of the EHR system with unjustified employment of graduates in government positions. The new market-oriented system will require a balance between the needs of the institutions for information on future demand for skills and of the students for advice on emerging employment possibilities.

203. Three major types of information will be of greatest use. First, the NDB should continue to refine its methodology for manpower forecasting to make it less rigid and more adaptable to the current market realities. Second, employer surveys should be expanded and need to be conducted more frequently so as to capture the volatility of the Mongolian labor market. And third, "tracer studies" should be conducted as part of the normal management responsibilities of each EHR institution at the grade 10 level and above. The central ministries can assist the institutions in this by providing training and coordinating the surveys in the urban areas. The successful convergence of these three types of information, if disseminated and used, will allow the EHR institutions to be a positive development force in Mongolia.

204. Action Steps. The improvement of the information and planning linkages will require that two separate activities be coordinated. First, the information collection activities discussed above must be implemented in an efficient manner. The NDB should continue to have responsibility for the manpower projection system; the MLPP should be asked to design and implement the employer surveys; and the MOSE and the universities should collaborate to prepare the EHR institutions to conduct tracer studies of their graduates.

205. The second activity will be the formation of a coordination panel responsible for the dissemination of this information and for encouragement of its use. This panel should consist of representatives of the MOSE, the MLPP, the NDB, and the universities. Its secretariat could be located in the new Higher Education Department of the MOSE. The tasks of this panel will be to monitor the individual information collection processes and encourage use of the information by institutions, employers, and students.

PROJECT #VI-3: Restructuring the MOSE to Serve Its New Mission and Roles

206. Formerly, the principal role of the Ministry of Education was to carry out the directives and implement the educational programs of central planners. Its mission was to administer such programs as efficiently as possible. Now, largely stripped of its operational

responsibilities and freed from the "top-down" dictates of such agencies, the MOSE must undertake the basic planning and policy analysis functions which are required to guide Mongolia's education system in the achievement of its major goals and objectives. It must also take the lead in defining and clarifying these goals and objectives. Thus, it should advance long-range planning for the country as a whole and be responsible for conducting research on the needs of higher education and the local public schools. Utilizing the EHR Sector Review and the current Master Plan as a foundation, the MOSE should continue to update and maintain a comprehensive EHR master planning exercise for the nation. It should assist in establishing new consolidations and new colleges, schools, units, divisions, and branches, as proposed by the Master Plan. It should be prepared as well to expedite the discontinuance of institutions when the need arises. The MOSE should also keep the government, the State Khural, and the public informed of the needs and accomplishments of public school education and higher education in Mongolia.

207. In addition, the MOSE should develop and recommend policies for adoption by local aimags, the Council of Rectors, and the separate institutions of higher education concerning shared responsibilities and common problems, such as the admission and retention of students, the projection of enrollment goals, the enhancement of academic quality, and the hiring of teachers and professors. It should also provide planning assistance to promote harmonious and cooperative relationships among all public and private institutions.

208. Action Steps. First, a new National Education Council should be created within the MOSE to be appointed by and reporting directly to the Minister. It should be composed of members who are widely representative of the government, the educational system, and the general public and who are major stakeholders in the development of education in Mongolia. Included should be representatives from the Ministries of Finance, Labor and Population Policy, Health, Culture, Trade and Industry, Energy, Construction and Urban Development, Food and Agriculture, National Development Board, Council of Rectors; the industrial sector, including mining; the business and commercial sector, including banking; the agriculture sector, including cattle breeders; the judicial sector; university professors and school teachers; city and aimag officials; labor unions; youth organizations; students; and others. Meetings of the full Council should be held twice each year. The executive committee (policy and planning) should meet once a month. The similar functions proposed by DANIDA for a :National School Development Council" suggest the two organizations should be unified.

209. The major functions and responsibilities of the Council should be to: (1) advise the Minister and his staff on all matters of educational policy governing administrative and academic affairs both in the public schools and in the colleges and universities; (2) assist the MOSE in monitoring and updating the Master Plan; (3) advise the Minister on the initiation and coordination of planning studies and policy analyses; (4) advise the Minister on recommendations for proposed legislation; and (5) provide advice to the Minister on operating and capital budgets and on financial projections.

210. Second, the present Minister's Council ought to be reconstituted as the Minister's Administrative Council. Composed of the Vice Minister and all the Directors General and Directors in the Ministry and reporting directly to the Minister, this advisory body should be scheduled to meet monthly (or more often at the discretion of the Minister) to: (1) advise the Minister on all internal affairs, (2) coordinate activities and share views on departmental responsibilities, (3) develop new management systems for improving communications and increasing efficiencies, (4) advise on policy and planning issues, and (5) in other ways assist in the conduct of Ministry business. The impact of newly enacted legislation and changing governmental policies on the education system should be an important part of the Council's monthly agenda. During the present "transition" period, the changing role and mission of the MOSE should also be high on the agenda.

211. Third, a new Office of Management Information Services (MIS) should be established to increase the Ministry's capacity for the collection, retrieval, and processing of data in order to facilitate planning, policy analysis, and decision-making. Starting from modest beginnings, this office should be designed and staged for gradual expansion. Statistics and financial data, currently gathered by hand, are already being merged in the computers in the MOSE for purposes of analysis and reporting. Future planning should include additional computerization and the provision of data processing services to the schools and to the universities to facilitate rationalization and consolidation.

212. In addition to these operational data processing functions, the new MIS Office should also be responsible (primarily to the Minister and Vice Minister) for: conducting management studies and policy analyses; formulating educational policy and planning statements for approval by the Parliament, local aimags, and the universities; assuring the legal foundation of all MOSE policies and procedures; and developing planning proposals emerging from the National Educational Council, the Minister's Administrative Council, and individual MOSE departments. Close liaison should be maintained with such agencies as the Standing Committee for Education, Science and Culture of the Parliament, National Development Board, and the other Ministries, as well as the universities and the various cities and aimags. Absorbing the present functions of the Institute for Educational Development, the new Office should report directly to the Vice Minister, operating in a “staff” capacity. Initially, it ought to consist of no more that three or four members. To develop its planning/policy analysis capacity, the MOSE should seek consultant assistance for in-country group training of all Ministry staff members (starting with the Minister's Administrative Council) in planning procedures, and solicit funding for specialized training of selected planning and policy analysis staff abroad.

213. The MOSE has been organized primarily as an agency for policy implementation, facilitation, and enforcement. Now, however, with the administration of the public schools passing to the cities and aimags, with the autonomy of universities and colleges increasing continuously, and with the number of private institutions growing rapidly, the operational responsibilities of the MOSE vis-à-vis local schools, on the one hand, and colleges and universities on the other, are both decreasing and changing. For example, new policies are needed to clarify overlapping authorities between MOSE departments and local aimag

authorities, other ministries (such as Labor and Population Policy), and other government agencies (such as the Academy of Sciences and the National Development Board). In its new role, the MOSE should begin to emphasize its long- and short-range planning mission for the advancement of Mongolia education; its responsibilities for policy analysis and policy formulation; its basic functions in the development of academic programs, institutional and inter-institutional research projects, and public service activities; its personnel development obligations to upgrade the qualifications and skills of teachers, principals, college and university faculty members, and administrators, including the professional proficiencies of its own staff; and its responsibilities to provide student assessment and institutional accreditation services. The MOSE must also be prepared to facilitate the blending of science and technology, the incorporation of research institutes into the universities, and the merger of university teaching and research activities.

214. In summary, seven further steps will be required to implement the internal organizational reform within the MOSE. First, the MOSE should continue to be organized centrally under the Minister and Vice Minister, with advice and counsel being provided by the National Educational Council and by the Minister's Administrative Council, and with staff functions being performed by the Office of Management Information Services and the Office of Evaluation Services, as outlined above. In addition, the Minister should delegate "line" authority to six functional departments: three departments dealing with academic affairs, each headed by a Director General; and three departments handling administrative affairs, each headed by a Director.

215. Second, in this delegation process, the current Department of Science and Technology Policy should be retained but re-named the Department of Science, Technology, and Research Coordination to reflect its functions more accurately. The department consolidates all MOSE planning and policy responsibilities for the development of science and technology, together with its responsibilities for relations with the Academy of Sciences and the various research institutes throughout the country.

216. Third, a new Department of Higher Education should be established and held responsible for MOSE relations with all institutions of higher education, the Rationalization Committee, the Council of Rectors, and the Higher Education Reform Commission on policy matters ranging from tuition fees and student loan funds to institutional licensing and program accreditation. More specifically, the Department ought to be responsible for MOSE relations with the research universities, and with the relevant ministries and key economic sectors (electric power and mining, new materials and construction, agriculture and biotechnology, etc.) which are concerned with scientific research and development projects being conducted in the universities. The Department should promote the merger of teaching and research at every opportunity. In addition, it should support research activities in other fields of study. The Department should not be responsible for MOSE relations with postsecondary institutions other than higher education institutions.

217. A compelling case can be made for combining the existing Department of Science and Technology with the new Department of Higher Education, thus providing a means for the MOSE to facilitate the merger of teaching and research in the universities, as mandated by law. However, considering the central position had by the Academy of Sciences in Mongolia's promotion and advancement of science and technology, there are reasons for dealing with the research institutes and the Academy quite separately. At the same time, there is an urgent need for the Academy to assess its contributions to the government's educational reform policies and to clarify its role and mission in the nation's new system of higher education.

218. Fourth, a new Department of Education should be created, headed by a Director General, which would consolidate the planning, policy, and development functions of the present Department of Pre-School and General Secondary Education and most of those of the Department of Postsecondary Education. Two offices should suffice to enable the Director General and his staff to carry out their new responsibilities. The Office of Primary and Secondary Education should deal with policy matters concerning all kindergarten, primary, and secondary schools, both public and private, and their relations with local government authorities on issues ranging from the coordination of school supply purchases (a critical need identified by teachers and school administrators) to the introduction of a national achievement test program. The Office of Vocational and Nonformal Education should deal with policy matters concerning all non-higher education, postsecondary institutions and all nonformal community organizations such as the National Children's Centers (which are now under the Ministry of Labor and Population Policy), on matters also ranging from administrative inefficiencies to the establishment and application of licensing and academic accreditation criteria.

219. Fifth, a separate Department of Personnel Services should be established under the supervision of a Director. The reason for creating this single-purpose unit stems from the fact that only the MOSE can provide the kind of personnel planning, policy development, and coordination services which are needed by the local schools and aimags, as well as the colleges and universities. Centralized policy and planning assistance is required in recruiting, selecting, and promoting teachers, professors, administrators and other staff employees; in arranging for in-service training, special orientations, and workshops; in organizing management and supervisor training programs; in administering the enrollment of academic and administrative staff members in college and universities - in Mongolia and abroad. In addition, the Department should assist schools, colleges, and universities in the preparation of job descriptions and classifications, in the development of performance evaluations, and in the administration of compensation and "social welfare" programs. It should also assist in systematic reviews of staffing requirements and in projections of future needs. Finally, the Department should be responsible for the administration of personnel services for all MOSE staff members.

220. Sixth, a reformed Department of Administration should be established, under the direction of a Director, which combines all the functions of the present Department of Economics and Social Welfare and the Department of Administration except for the those being transferred to the new Department of Personnel Services.

221. Seventh, a new Department of Public Relations, Communications, and International Cooperation should be established with full departmental status. In addition to assuming the present responsibilities of the Division of External Relations and International Cooperation, this expanded department should work closely with the Minister and Vice Minister in developing new lines of communication to keep increasing numbers of the Ministry's "publics" fully and accurately informed about the needs and activities of Mongolia's educational system - and about the new role and mission of the MOSE. By such means, the Ministry should demonstrate its accountability to the government and the public concerning the effectiveness and quality of academic programs, the relevance and excellence of research projects, and the appropriateness of a wide variety of public educational services. Such accountability should also include progress reports on the implementation of the educational reform policies of the government. The new Department should design strategies, develop publications, and organize informational campaigns. The Department should coordinate all MOSE publications, handle relations with the media, and advise the Minister and the MOSE on relations with the donor community. Finally, the Department should act as a central clearinghouse of information concerning all donor-sponsored projects dealing with human resource development and education reform activities regardless of whether the project is implemented through the MOSE or not.

222. Attached is an organization chart of the new Ministry of Science and Education. It gives a graphic picture of how the Ministry should be restructured under the terms of the Master Plan in order to rationalize its new role and mission, assure academic and institutional quality, and improve its efficiency and effectiveness. Concomitant with these structural reforms, the MOSE will need to develop a staff development program that assigns competent staff to the appropriate departments and provides training opportunities for those whose skills do not meet their new responsibilities.

PART SIX: CONCLUSION

223. The activity areas and projects listed here, while representing the priorities from the much longer list of options discussed in the development of the Master Plan, still far exceed the ability of the government to finance and the capacity of the government to manage at this time. Each project has been developed so that some progress could be accomplished within the resources and capacity of the government. Similarly, each project has the potential to be expanded if external financial and technical assistance is forthcoming. An important requirement for these reforms will be for the Minister of Education to draft legislation for the State Khural indicating the needed changes in the legal foundation for the reforms.

224. It is important that the government of Mongolia not postpone necessary reforms until foreign assistance is forthcoming. The EHR needs of the nation contain many reform activities that are within Mongolia's ability to finance and manage. It is important for the external assistance community to recognize the leadership that Mongolia must take in reform in the EHR sector and to identify those forms of assistance that reinforce the government's own initiatives. The people of Mongolia require and deserve an EHR system that serves their individual and collective needs; to provide them with such a system it will be necessary to forge an effective partnership between the government, its public and private organizations and individuals, and the donor community. This Master Plan is designed as a foundational step in the development of that partnership.

APPENDIX A: INDICATIVE LIST OF KEY EHR ISSUES AND OPTIONS

This Master Plan report is designed as a companion volume to the EHR Sector Review and thus will not repeat all of the extensive descriptive and analytical material included there. The following list indicates the key issues and options identified by the EHR Sector Review's working teams. The presentation of the issues and options is organized in terms of the Sector Review's three contextual topics of policy and planning, economics and finance, and educational management, and of the three EHR subsectors defined for the Sector Review: (1) basic and general secondary education; (2) higher education; and (3) vocational-technical and nonformal education. Participants in the Master Planning process were requested to review this list and to identify seven to ten priority projects they would like to have the 1994-98 Master Plan emphasize. Participants were free to modify any of the potential activities identified here and were encouraged to propose new activities, not presently on this list, which they felt should become priorities for the Master Plan.

POLICY AND PLANNING

- There is a need for recognition among government decision makers that priorities must be established and difficult decisions made. It is not possible to maintain all of the present EHR system. This requires explicit choices of which levels and forms of the EHR system to preserve and at what standards of access and quality.

- The need for EHR reform is not solely or even primarily financial in origin but the current financial crisis emphasizes the need for reform. Mongolia's EHR system has basic structural, curricular, personnel, and managerial problems that must be dealt with to prepare the nation for a democratic society and a market economy.

- Planning activities must focus more on strategic objectives (with specifics as to control, participation, and funding - how much and from whom?) and monitoring and evaluation of the implementation process. Vague policy or planning pronouncements, and those that are unaffordable, should be avoided in favor of practical and realizable objectives.

- The Ministry of Science and Education is shifting from an implementing agency to a policy analysis, monitoring, and regulating authority. Structures and personnel need to he adapted to this new role.

- Formerly, EHR planning was designed to meet the requirements of central planning; there was a high degree of detail, assured funding, and little need for adaptation once the plan was approved. In the new environment, planning must deal with greater uncertainty, little assurance of funding, and a dramatic need for adaptability. The planning process and the participants in it require new skills and attitudes to deal with this change.

- Policy making and planning must become proactive rather than reactive and policy should not be an implicit result of funding decisions; rather, funding decisions should reflect stated policy priorities.

- MOSE authority in the past was closely linked to financial and legal responsibility; much of the financial authority has been lost because of decentralization of responsibility for basic education and general and vocational secondary education to the aimags (provinces) and the increased autonomy of higher education institutions. The legal authority has also been modified and the MOSE will increasingly need to rely on its intellectual authority - its ability to provide useful information, other services, and advice - to exercise continued influence within the EHR sector.

- The Government of Mongolia, through international agreements and its own policy statements, is committed to a reduction in the numbers of administrative and support staff at all levels of the EHR system. The two guidelines in this effort are to remove unnecessary personnel and to improve the quality of administrative personnel while reducing the total numbers and controlling the proportion of the budget allocated to administrative and support services.

- A Policy Analysis-Planning Unit is needed in the MOSE to formalize its new service role within government; this unit should be attached to the Vice Minister's office, and work with existing departments and sub-units to provide the Minister, the Minister's Council, and the Khural (parliament) with information and advice concerning EHR policy options at all levels of the system.

ECONOMICS AND FINANCE

- The loss of the massive subsidization (totaling as much as 30 percent of GDP) from the former Soviet Union has caused a major contraction in public resources at the same time that the collapse of the communist trading bloc has ended Mongolia's preferential trade arrangements. These economic difficulties have occurred simultaneously with Mongolia's attempts to introduce democracy and the market system.

- Mongolia's former capital-intensive development strategy created a substantial misinvestment in unmaintainable and often irrelevant production enterprises while failing to create the necessary communication and transportation infrastructure for development of the substantial economic assets Mongolia does have in minerals, tourism, and food production.

- Inflation (made more visible by floating the tugrug) and unemployment (made visible by the end of guaranteed employment in the state companies and cooperatives) are creating political and psychological as well as financial problems for the economic transition.

- The easier stage of privatization is over and the majority of the remaining public companies scheduled for privatization are either unprofitable or will require huge investments to make them self- sufficient. It is questionable if adequate investment funds, domestic and foreign, will be forthcoming in the immediate future to allow significant privatization gains except in service areas such as education and health where the government's own commitment to privatization is least clear.

- National fiscal capacity is constrained by the loss of foreign subsides and the earlier dependence on taxes levied on state enterprises; new taxes and collection systems are only slowly being developed and the recession has reduced their ability to generate necessary revenues. Cost containment rather than revenue enhancement is the more realistic short term option for government.

- In 1990 recurrent expenditures were 78 percent of the government budget - since that time this proportion has increased to over 90 percent as investments in capital have been sacrificed to pay recurrent costs. Government salaries are relatively low but heating costs and other utilities take up a disproportionate share of budgets. Similarly, for education and training, teacher costs are low (29-42%) but utility costs relatively high *(15-34%)*

- The shares of total government expenditure (and per student expenditures) in 1992 were: kindergarten- 21 percent (tg 5,094); basic and general secondary- 55 percent (tg 2,035); vocational secondary- 7 percent (tg 9,333); higher education- 16 percent (tg 12,954). The proportion and the unit costs for kindergarten are unusually high.

- Population increase will create a 29 percent expansion of the 0-16 age cohort over the next 15 years. Even if currently reduced participation rates continue, this population growth will cause an increase in the need for school resources.

- Additional EHR resources need to be generated by encouraging private education alternatives at all levels, promoting institutional income generation through production enterprises, initiating fee systems in postsecondary education, promoting private and community partnerships with educational institutions, and requiring students and families to bear a larger share of operational costs. All of these activities will require careful implementation and monitoring to minimize potential inequities and to protect basic social interests.

- Cost reduction efforts should include closing or otherwise reducing the scale of existing institutions, reducing or eliminating public kindergartens, increasing the efficiency of utility generation, delivery, and use, encouraging local innovations (schools in gers, community maintenance projects), creating more 1-4 schools to limit needs for dormitories, rationalizing staffing levels and patterns, and investigating nontraditional delivery systems to provide equivalent EHR opportunities at less cost.

EDUCATIONAL MANAGEMENT

- The nature of the demands for management and for management training are changing because of the shift from the command economy and toward more democratic and participatory decision structures.

- The Education Law of 1991 defines administrative structures and responsibilities; main characteristics are the attempt to merge science and education, decentralization of administrative and financial authority to aimags, increased autonomy in higher education, and authorization of private schooling.

- Decentralization has been introduced without a clear agreement as to the division of authority and responsibility between the MOSE and local authorities and inadequate consideration has been given to the administrative capacity of these local officials who now have such major educational responsibilities.

- Traditional administrative structures continue to dominate new formal and informal advisory bodies (e.g. Commission on Higher Education Reform or Council of Rectors) even when the latter represent more qualified or more representative groups. The government needs to create conditions where better use is made of such private or quasi-public organizations. Also, it should be made possible to organize and operate such organizations without government approval or supervision.

- MOSE personnel and responsibilities have changed while its internal structure has remained the same; a better fit of personnel and structure to new responsibilities is needed. A comprehensive management audit is needed of the MOSE's roles, personnel, and structures.

- Personnel management is constrained by low salaries (and low salary ranges) and lack of opportunities and incentives for professional development.

- Information availability in basic EHR statistics and financial data is good but not closely tied to decision makers' needs and not readily available for use in policy analysis.

- Financial control is detailed and systematic, but not subject to independent audit.

- Training institutions for management are emerging, most notably the Institute for Administration and Management Development (IAMD). However, a lack of cooperation and coordination appears to exist among the institutions in this area and the IAMD could play a potentially valuable leadership role.

- Consideration should be given to reducing the number of higher educational institutions to make better use of management talent and to reduce program redundancies.

- Managers at all levels need training in making decisions under financial constraints. Managers must understand that the failure to make decisions is an implicit decision to accept the consequences of inaction.

BASIC AND GENERAL SECONDARY EDUCATION

- Mongolia has had one of the most equitable education systems in terms of gender, ethnic, and locational (urban-rural or regional) standards.

- The intended role of government in education has been confused by general uncertainty about the responsibilities of the government for social sectors in a democratic, free-enterprise society. Official pronouncements of EHR goals and objectives are inconsistent with policy actions and financial decisions.

- Dropout rates have increased from 4 percent in 1988-89 to almost 22 percent in 1992-93 with those in rural schools (especially males) being the more common dropouts. The causes appear to be improved economic opportunities resulting from privatization of herds, skepticism about the relevance of education, and perceptions of increasingly poor quality in the schools.

- The financial crisis and inflation have meant that many schools exhausted their January-December fiscal year budget by June and will need substantial new allocations before they can open in September. Kindergartens, boarding facilities, and grades 9 and 10 are the major places where cuts are being made.

- The teaching staff is contracting and many of the more qualified teachers are leaving for better opportunities; new teacher supply is inadequate to meet the requirements for qualified teachers, and rural schools will have the least qualified teachers.

- The new 1991 curriculum has not always been implemented effectively but does attempt to increase local relevance while retaining the core of subjects necessary for preparation for postsecondary education.

- Introduction of the requirement for use of local script has placed special demands on education at a time of financial and other crises. Teacher training and new textbook development and dissemination have been dominated by this one topic; the implementation of Mongol script needs to be carefully planned so as to cause minimal disruption of other educational activities; UNESCO, Japan, and other countries have promised support for textbook design, production, and distribution of these materials through public and nongovernmental organizations.

- Textbook production and distribution is constrained by shortages of paper and finance as well as an inadequate distribution infrastructure. A comprehensive textbook policy is

needed that identifies priorities, assigns detailed responsibility for tasks, and encourages greater use of private alternatives in materials design, production, and dissemination.
- Facilities are deteriorating and equipment is often not available or is nonfunctioning. Maintenance is totally inadequate and in most schools there is no budget for repairs.

- Private institutions of primary, middle, and general secondary education should be encouraged and basic standards of personnel and facilities should be established for their operation. These standards should be the same as used in the management of public institutions. Students graduating from private schools should have equal rights to transfer to public schools and to proceed to higher education.

- A major new program of nonformal and continuing education should be developed to provide learning opportunities to dropouts and others who leave school prior to completion of grade 8. In addition, nontraditional means of delivering formal education should be explored. For example, underutilized schools in rural areas might be closed, with single-classroom, multi-grade schools, perhaps located in traditional gers, replacing them. Also, "family schools" for nomads could be encouraged; these schools, with or without formal teachers, would move with the families and use the advantage of the education of the parents combined with special home study materials.

- More inservice and preservice training should be provided for school and local government administrators on the requirements of educational management. In addition, class teachers should receive training in educational guidance to allow them to help students and their families prepare for the new opportunities of the market-based society.

HIGHER EDUCATION

- In the last three years, higher education (defined to include only institutions granting baccalaureate or higher degrees) has changed from a single public comprehensive university to a set of eight specialized university-level institutions complemented by colleges emphasizing technology, art, economics, and business. The National University of Mongolia is the only institution that has maintained programs across the traditional curriculum. An increasing number of private higher education institutions are now being opened.

- Two major organizational trends in this same period are the attempts to merge research and teaching (by bringing formerly independent research institutes within the new universities) and the placing of postsecondary "colleges" under the control of the universities.

- The degree structure is shifting from a Soviet model in one of B.A., M.A., Ph.D. with the existing Doctor of Science degree being retained as an advanced degree 2 1/2 to 3 years beyond the Ph.D. No standardization of these degrees in length of study or

curriculum content exists and there is some confusion about the equivalency of these new degrees with the old degrees.

- The major financial changes occurring in higher education are the elimination of student stipends (commonly about one-third of the total budget and for several institutions the single largest budget item) and the introduction of tuition fees. The fees are intended to cover the variable costs associated with instruction; a State Foundation for Training is being established to provide loans for students sponsored by future employers or identified by the National Development Board (NDB) as part of future manpower requirements.

- Simultaneous with the encouragement of market forces in higher education through the introduction of fees, the system continues to operate under a manpower planning model that is a vestige of the old command economy. Places in public higher educational institutions have been allocated based on the NDB's projections of manpower demand and employer sponsorship. Even with tuition fees, some programs will not admit fee paying students who do not qualify under this allocation system. It appears that for some program areas, such as foreign language, the NDB estimates are artificially low; this encourages students to seek private higher education alternatives.

- Higher education enrollments peaked in *1985* at 18,141 and by 1993 had fallen to 16,917 (the Agriculture University suffered the greatest contraction in enrollment). In *1985,* another 6,110 Mongolians were in higher education programs in other countries; in 1993, only 41 new students were admitted abroad. Future enrollments may be curtailed by the removal of stipends and introduction of fees, but currently private demand for higher education remains strong. The more serious constraint on enrollment will continue to be the NDB's reduced estimates of manpower demand; even if formal quotas are eliminated, this will mean fewer students will qualify for government loans for their higher education. Other criteria than manpower demand (such as financial need) should be considered for loan eligibility.

- Higher education teachers are predominantly male, over 40 years of age, and were trained under the previous social system. The needs for specific retraining and for general staff development (especially in such areas as economics, law, and social science) are substantial but are unlikely to be satisfied in the short run because of inadequate finance and the lack of an institutional capacity in Mongolia to conduct such training.

- The higher education institutions offer over 100 specializations at the baccalaureate level. These are often excessively narrow and frequently are not appropriate for the current employment market. However, an increased emphasis is now being placed on such specializations as management, commerce, economics, and accounting to respond to new market requirements.

- Higher education facilities are old, often in poor repair, and budgets for maintenance and renovation are totally inadequate. Equipment, especially computers and laboratory devices, is scarce, often outdated, and frequently nonfunctioning.

- Salaries are low and represent only 35 percent of the variable budget; per-student costs in 1992 ranged from Tg 11,926 at the Pedagogical University to Tg 38,119 at the National University's Pedagogical Institute at Khovd (these costs are approximately 60 percent higher now because of wage and other increases).

- Institutions are able to calculate detailed cost budgets by program but there is little evidence that this or any other institutional research data are used systematically in institutional planning.

- The four key areas of concern are teacher qualifications; the quality of facilities, laboratories, and equipment; the lack of library resources (over two-thirds of library collections are textbooks); and organizational structures that are fragmented and not well coordinated. Merging of institutions and privatization are alternatives worthy of consideration both as a means of reducing government expenditures and as a way to increase the effectiveness of instructional and research activities.

- The Academy of Science's reluctance to merge some of its institutes has led to the formation of the Institute of Technology; because this group of potential instructors are primarily researchers, an obvious alternative is to unite this institute with the Technical University or some other institution to offer graduate degree programs.

- Quality in the private system needs to be monitored by a joint public and private organization; the organization's role should be more to provide potential students with information about the institutions and not to be a strict regulatory authority.

- Fewer but better trained and better financed researchers would both increase the internal efficiency of higher education and promote the external relevance of higher education's research effort.

VOCATIONAL-TECHNICAL AND NONFORMAL EDUCATION

- Nonformal, adult, and continuing education is not yet well developed in Mongolia. In contrast, the vocational-technical education (VTE) system has a long tradition of support under the command economy. The VTE structure consists of Training Production Centers (TPCs) preparing operatives from students from all grade levels; "step" schools preparing operatives, technicians, and semi-professionals from graduates of grades 8, 9, and 10; and VTE schools and colleges preparing technicians and semi-professionals, also from graduates of grades 8, 9, and 10.

- The traditions of the planned economy remain a strong influence in the VTE subsector. Manpower projections as a basis of enrollments, excessively narrow specializations, and a lack of emphasis on the adaptability needed to fit graduates for the free market are all signs of the difficulty the sector faces in this period of transition.

- Thirty two TPCs and step schools exist in 1993. Enrollments have declined from 29,067 in 1990 to 11,685 in 1992 because of reduced student interest and intake limits imposed by the NDB. In 1990, 2,636 VTE students were enrolled in other countries (almost exclusively the Soviet Union and Eastern Europe); for 1992 this number was only 194.

- VTE teachers have declined from 3,077 in 1990 to 1,206 in 1992. Teachers are predominantly male, 30-50 years old, and not trained to prepare students for free market employment. Many of the best teachers appear to be leaving for better paying employment in the private sector.

- The VTE curriculum is still dominated by orientation to heavy industry rather than needs of the service or commercial sectors. General education needs receive less attention in favor of highly specialized skills. The curriculum's desired focus on practice rather than theory is not realizable because of lack of equipment and supplies.

- VTE facilities are now dramatically underutilized relative to student capacity but there is no indication of an underproduction of VTE graduates in general. Excessive specialization in training may have reduced the ability of graduates to adapt to market demand. Facilities are in poor repair and equipment is old and often irrelevant for current skill needs.

- Administrative staff serve both as educational managers and as links to employers and training opportunities in the business enterprises. New forms of training administrators are needed to produce VTE managers who can organize training programs, initiate and maintain income generation activities, and promote the placement of graduates through identification of skill requirements and linking graduates to employers.

- Some PTCs and step schools have been successful in income generation activities. Innovation and flexibility in this regard should be encouraged; such activities provide financial support, orient student attitudes toward market needs, and develop entrepreneurial skills.

- Five critical internal efficiency needs are raising teacher quality, improving instructional methods, increasing the availability of teaching materials, upgrading facilities and equipment, and providing qualification testing of student achievement. The major external efficiency issue is the questionable relevance of VTE training to the skill needs of the labor market. Consolidation of training sites would lower costs and allow retention of better teachers if part of savings is allocated to better salaries.

- The nonformal, adult, and continuing education system needs to evolve as a complement to general schooling and to formal VTE programs. It should serve as a special resource for rural children and adults and as a source of experimentation and innovation.

- A National Training Policy is needed to identify needs, how they can be met, and responsibilities for financial and managerial authority. This policy should clarify the appropriate role for private training institutions and the government's encouragement of on-the-job and nonformal training alternatives. Also, a decision is required as to whether market forces or manpower planning will dictate future development of this subsector.

- Content of courses and of programs need to be made more relevant to the emerging manpower needs of the economy. Equipment and teaching materials must be available and suitable. For these changes to occur, a further contraction in the size of the VTE sector will be necessary.

- New partnerships are necessary between the public training sector and the private employment sector. Government should not attempt to monopolize VTE training; it should encourage on-the-job training through sharing of teachers and facilities and through joint activities between VTE programs and private companies. Facilities closed through consolidation of the VTE system should be available for use by private VTE schools.