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## The Education Sector in Bosnia-Herzegovina and Possible Long-Term Options for Educational Policy, Planning and Development Assistance

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## **Introduction and Background**

This is a report of a mission to the Republic of Bosnia-Herzegovina (BiH) in late October and early November, 1994. The mission was asked to explore with government authorities and educational institutions the medium and long-term educational issues as seen by the various constituencies and to prepare a brief sector review that would be of help to donor agencies. In addition, the mission was asked to assist in the preparation for a national education roundtable held on November 4 and 5.

Emergency needs for reconstruction and winterizing of schools and for rebuilding university facilities were not part of the terms of reference of the mission. Other groups are concerned with this, including the European Union in Mostar, the UN and UNESCO in Sarajevo, the Soros Foundation, and other elements of the UNICEF program. This mission was for the purpose of looking ahead to what needs to be done to lay the groundwork for an efficient, effective and relevant education post-war education system within the framework of the new Federation of Bosnia-Herzegovina.

The mission began its work at the UNICEF area office in Zagreb (October 16 and 17) where briefings and a document review were undertaken, both at UNICEF offices and at USAID offices at the American Embassy. It then proceeded to Split for briefings at the sub-office of UNICEF (October 18). Most of the time was spent in Sarajevo in discussions with education and finance officials and preparing for the national education policy conference held on November 4 and 5 (October 19 through 22 and October 29 through November 6).

Side trips were undertaken from Sarajevo to

- Mostar (October 23 and 24),
- Zenica (October 25 and 26) and
- Tuzla (October 27 and 28).

Finally, the mission debriefed in Zagreb on November 7 and visited Paris (8-11 November) in order to fully brief UNESCO officials there. A final report was prepared following the Paris visit. The list of key visits with officials in Sarajevo and elsewhere appears in Annex I. Tables 1 through 3 appear in the text; Tables 4 onward appear following the Annex.

As noted above, the mission was scheduled to coincide with a two-day policy discussion meeting organized by the Ministry of Education in Sarajevo on November 4 and 5, 1994. The Ministry prepared a position paper for presentation and discussion at this meeting. In this paper, a brief history of the education system in the former Yugoslavia is presented and a description of changes since the formation of the Republic of Bosnia Herzegovina. The mission spent several hours reviewing this paper with the Deputy Minister of Education and the Secretary of the Ministry. At the November 4 and 5 meeting, the mission further explored options as seen by the various constituents represented at the meeting.

Over 100 participants attended the November 4 and 5 meeting, including the Minister of Education, Science, Culture and Sports and his key deputies; the Director of the Pedagogical Institute (the technical staff of the Ministry); representatives of various elementary and secondary schools; several faculties of the university; representatives of the Catholic and Muslim communities in Sarajevo; the UN Special Representative to Sarajevo; representatives of several bilateral and multilateral funding groups and agencies and others. Nearly fifty participants gave lengthy presentations on their views as to what the education community should look like in the future.

The views ranged from conservative to reformist. Conservative views seemed to say that the pre-war educational system worked well and that BiH should re-create that system with minor modifications. Others felt that BiH was getting left behind and that the entire education system needs to be re-structured to suit the economic, social and political reality of the future. Many urged that the new system think of ways of teaching values, either through new methodology or through extra-curricular and other activities. Values were defined to mean many things: rights and responsibilities in a free society; responsible environmental behavior in everyday living; concern for basic humane principles; empathy with and sympathy for others. One educator suggested bottom-up reform, with education geared to the mental health and personality needs of children at various ages with less emphasis on early achievement in traditional subject matter. Some urged more community/parent/business participation in educational reform and development. Others suggested attention to mobility features of the system. As we have more and more a world economic and social system, the ability for BiH children to move elsewhere to continue education (and for others to come here to get education compatible with theirs at home) must be of concern. Representatives of Catholic and Muslim communities pointed out that they were contributing to educational reconstruction by developing their own parochial schools and the representatives of the Ministry of Education indicated that national policy is to encourage schools sponsored by religious groups as long as the core national curriculum is followed. For non-religious schools, comparative religion courses will be offered but no religious instruction courses will be required.

The final seminar re-enforced many of the analyses made throughout the report, below, most of which was completed before the national seminar on November 4 and 5. For instance, it was noted in the seminar that there had been no formal training of educational administrators in the former Yugoslav system before the war, and that the system was top-down, with little flexibility at the local level. Now, with a decentralization policy, and with more of the finance to come from the local level, there is need for well-trained planners, administrators, managers and leaders at the national, canton, and local school levels. In addition, new higher education planning and management tasks will accrue to post-secondary institutions in the future and new kinds of administrators, institutional planning and related services will be needed.

The national seminar concluded with the recommendation that a number of more specialized, smaller seminars be held in the future, in cooperation with international organizations and NGO's. These seminar/workshops would include foreign experts, when available, and would take place not only in Sarajevo but in the cantons, when possible. All of these suggestions are compatible with needs as identified by the mission. The workshop topics mentioned at the workshop and discussed during the break by the international organizations and NGO's include the following:

- Workshop(s) on needed changes in the curriculum (including various subject areas) and in the textbook program.
- Workshops on educational administration/management/leadership at all levels, school and university.
- Workshops on how to involve the community/parents/business in educational planning, development and implementation (should include representatives of these groups in the workshop).
- Workshop on the education of educators: new approaches to teacher training, pre-service and in-service; training of trainers.
- Workshop on new approaches to informal and non-formal education.

- Workshops to train trainers of English as a second language trainers; other English-language workshops.

The mission was funded by UNICEF, an organization deeply involved in emergency funding for the educational system in Bosnia-Herzegovina. The mission, however, was **not** intended to examine emergency assistance but rather to look ahead to the tasks necessary to rebuild an educational system that is efficient, of high quality and relevant to the goals of the new nation of Bosnia-Herzegovina. At the same time, as the mission was deeply aware of the fact that the regions visited were still in a state of emergency and although reconstruction had begun, the need for emergency aid was still great. In fact, most informants had difficulty in trying to project into the future because of the urgency to provide for immediate needs, often one day at a time. Emergency assistance still needed includes repair and reconstruction of damaged schools, provision of heat in those schools as winter approaches provision of teaching supplies, food aid, textbooks and related materials.

The mission is grateful to UNICEF officers in all region visited. It is especially appreciative of the help of Nada Zan, Education Assistant in the UNICEF Sarajevo Office, who traveled with the mission and who interpreted in the many meetings held. Ms. Zan also translated numerous documents and prepared several background documents on the education system in Bosnia-Herzegovina that were most helpful in the preparation of this report.

## **The Current Situation**

### **1. The statistics :**

The Ministry in Sarajevo has issued statistics that show a dramatic decline in numbers of schools, students and teachers since the outbreak of the hostilities. This is partly because the Government of the Republic of Bosnia Herzegovina (RBiH) does not control all of the former BiH region and partly because many parents, students and teachers have fled because of the conflict. In the policy brief of August, 1994, entitled *Brief About the Educational System and Funding in RBiH*, issued by the Ministry of Education, Science, Culture and Sports, the following figures (Table 1) are given for primary education (grades one through eight in two cycles, one through four in which all subjects are taught by one teacher and five through eight in which separate subjects are taught by separate teachers):

**Table 1 - Primary Education in RBiH**

| School Year | Number of schools | Number of students | Number of classrooms | Number of teachers |
|-------------|-------------------|--------------------|----------------------|--------------------|
| 1965/66     | 2,696             | 597,256            | 17,874               | 15,856             |
| 1970/71     | 2,714             | 644,497            | 22,428               | 21,798             |
| 1980/81     | 2,462             | 625,619            | 20,210               | 23,053             |
| 1990/91     | 2,205             | 539,875            | 19,383               | 23,369             |
| 1993/94     | 285               | 199,689            | 7,308                | 7,238              |

Clearly, the number of primary schools, teachers and students has dropped dramatically

since before the war. The figures in Table 1 are those of the last school year and figures for the 1994-5 school year are not available but will probably be somewhat larger than those of 1993-4.

Some caution must be taken in interpreting these figures. During the height of the war, schools continued in basements of buildings; now, schools are often in temporary quarters and often are running two or three shifts a day to meet the demand.

Secondary education has been affected as well as shown by Table 2 (1993/4 figures reflect only schools in territories controlled by the government of RBiH):

**Table 2 - Secondary Education in RBiH**

| School year | Number of Schools | Number of Students | Number of Classrooms | Number of Teachers |
|-------------|-------------------|--------------------|----------------------|--------------------|
| 1965/66     | 375               | 102,637            | 3,411                | 4,172              |
| 1970/71     | 289               | 107,202            | 3,503                | 4,562              |
| 1980/81     | 447               | 227,408            | 6,999                | 8,839              |
| 1990/91     | 239               | 172,556            | 5,605                | 9,610              |
| 1993/94     | 133               | 59,212             | 2,124                | 4,146              |

A number of common problems are faced by primary and secondary education in all of the cantons. Most need to winterize quickly so as to be able to offer classes in the winter. Most need extensive repairs in order to stay open in the winter. For instance, in East Mostar, there appear to be 9 kindergarten, 10 primary schools, 12 secondary schools and one special education school, and practically none have as yet been reconstructed. The Ministry estimates that about 3.5 million deutschmarks (about US\$2.3 million) will be needed to get all of the schools ready to open. The European Community (EU) is currently completing the reconstruction of secondary school #8 in West Mostar (a school with 1,000 pupils). It hopes to finish one elementary school and two specialized secondary schools (music and industrial professions) in East Mostar by the end of the year. Similar problems exist in all of the cantons.

In the medium and long term, there are policy and planning issues that must be resolved. These involve decision-making on numbers of schools to open; which to consolidate; whether to charge fees and for what; how to find financing for continuing operation of a decentralized system; how to train new teachers and re-train existing teachers; how to develop curriculum options that suite local conditions; and many other issues. Some of these are dealt with further in later sections.

Table 3 shows the situation as higher education has developed during the past several decades:

**Table 3 - Higher Education in RBiH**

| School Year | Number of Higher Education Institutions | Number of Students | Number of Teaching Staff |
|-------------|---|--------------------|--------------------------|
| 1965/66     | 25                                      | 22,756             | 1,965                    |

|         |    |        |       |
|---------|----|--------|-------|
| 1970/71 | 27 | 31,414 | 1,703 |
| 1980/81 | 41 | 48,461 | 1,934 |
| 1990/91 | 48 | 37,763 | 2,340 |
| 1993/94 | 40 | 10,500 | 1,392 |

Many of the higher education institutions in Table 3 are post-secondary academies and technical schools. A number of these are becoming a part of universities or becoming universities themselves. Some of the Pedagogical Academies, originally two-year post-secondary institutions to train teachers for multi-class work in grades 1-4 and subject-matter classes for grades 5 through 8, are becoming four-year academies and some are becoming pedagogical (or philosophy) faculties of existing universities. In West Mostar, for instance, a Pedagogical Academy that had been in existence since 1951 and a two-year post-secondary Academy since 1970, became in September, 1994, the Pedagogical Faculty of Mostar University. The new faculty has admitted 300 students, spread among seven teaching groups: pre-school; multi-subject class teaching (for grades one through four); math and physics; biology and chemistry; Croatian and English; Croatian and German; Croatian language and literature. The Academy at Tuzla similarly has expanded its program to four years of post-secondary work and, as of 1994, has become part of the University of Tuzla as the Faculty of Philosophy.

Most universities are traditionally organized with faculties of economy, law, agronomy, civil engineering, philosophy (often dealing with pedagogy and that in most universities would be so titled) and others. The University of Sarajevo is reported to have as many as fourteen faculties. There appears to be duplication of effort in that several faculties offer courses in basic sciences, presumably because each needs only certain elements of that discipline. At the university in West Mostar, however, there is talk of sharing labs among faculties and horizontal groups of biologists, chemists, etc., who will dialogue with each other across faculties.

Both universities and post-secondary technical institutes offer a myriad of specializations, closely following the pre-war system of preparing young people for highly specialized jobs as ordered by the centralized economic planning. There would appear to be a need for a careful study of the curriculum and cost of the entire vocational (secondary) and technical education system before it is rebuilt to serve an economic system of the past.

Urgently needed is a further study of the higher education picture in the country. There will be new manpower needs in the post-war economy, need for trained specialists who can move from one kind of job to another, need for entrepreneurs who can use their skills to create service businesses that can create jobs, need for leaders who understand the world social and economic system. Further, the country sees itself as a part of Europe and it must examine the compatibility of its higher education system with that of Europe. Members of the European Union for instance, have been embarked over the past years in an intensive effort to reform higher education curriculum, examine ways to encourage mobility of higher education faculty and students between and among institutions, ways of innovating in higher education and ways of making higher education more efficient and relevant. Bosnia Herzegovina must embark on similar efforts.

## **2. Finance:**

Of the moment, there is little federal, cantonal or municipal budget for education. Schools and educational institutions operating do so because of volunteer teachers and administrators and

because of buildings offered by municipalities and cantons and maintained by them. There appears to be an effort in some cantons to pay the teachers a token amount (usually from .5 Deutschmarks to perhaps several DM a month) plus some food supplies, though it is not clear if the food supplies are those available to everyone in the same amount. Even the Minister of Education receives only 1.7 DM a month (slightly over US\$1.00 and the deputies and Ministers at Large 1.5 DM or about \$1.00). Although figures incomplete, there is clearly a shortage of teachers and the Ministry has begun plans to quickly train additional teachers. These plans include the creation of secondary teacher training schools in each canton, the first of which opened in October, 1994. It is unknown how these teachers will compare, in practice, to those trained in the two year post-secondary pedagogical academies, the former becoming teachers after twelve years of schooling and the latter after fourteen.

All educational planning and financing must be in the context of the political situation. Currently, several regions or cantons have agreed to form the Federation of Bosnia-Herzegovina with the central government located in Sarajevo alongside the Republic of Bosnia-Herzegovina government. Within cantons are municipalities that also have or will have their political and educational infrastructure.

The Federation of Bosnia Herzegovina, however, is largely the result of agreements between Bosnian and Croatia authorities (the "Washington agreement") and the UN System and the European Community. Exactly how this federation will function has not, as yet, been completely worked out and agreed upon on the ground. The agreements suggest a cantonal arrangement whereby the various regions and municipalities have much autonomy within a federal structure. Within this structure, income presumably will come from three levels of taxes: federation (customs taxes, sales taxes on certain products, and 10 or 12 other kinds of specialized taxes); cantons (business and income taxes); municipalities (probably property and business taxes).

Only in early November, 1994, are representatives from the various cantons meeting to try to work out how the Federation will be organized. In the early plan, there were to be three Bosnian cantons, three Serb canton, and three Croatian canton, plus the Canton of Sarajevo. The later Washington agreements concentrate on unifying the Croatian and Bosnian canton into a federation. Currently (November, 1994), there appear to be eight cantons cooperating in the education sector. These are essentially the Bosnian and Croatian cantons.

The legislature in Sarajevo is currently considering various proposals for organizing and financing education but none of these proposals, it seems, has been discussed in any detail with the cantons. One suggestion is that each canton would control and largely support its own educational system. Current thinking of some in the Finance Ministry is that primary schools would be supported 60% by local authorities (primarily municipalities) and 40% by federal authorities; secondary schools would be supported 70% by local authorities (primarily cantons with some municipal support) with 30% federal support. Universities would be supported 70% by federal government with 30% from other sources (primarily student tuition fees, grants, contracts, etc.). Some cantons seem to have a different idea. West Mostar officials, for instance, suggested in our discussions that 20% of the cost of primary schools should be borne by municipalities and cantons (basically, costs of maintenance, supplies, etc.) while 80% should be borne by the Herzegovina government (all salaries, teacher preparation, etc.). They also suggested that 100% of the cost of secondary schools be borne by the Herzegovina government. Many cantonal and municipal officials emphasize the destroyed industrial base and lack of personal income. They felt that the federal government would have to shoulder most of the costs of education at all levels for some time to come. Unless substantial bridging financing is available from international sources, however, the federal government is no better off in terms of available resources than the cantons

and municipalities.

The Ministry of Education, Science, Culture and Sports is not as specific on amounts, but does suggest strong cantonal and municipal support for education. It suggests that based on past experience and the experience of advanced European countries that about 5.9% of GNP must be collected and invested in education. The MESCS further suggests that about 60% of all educational expenditure should be from the cantonal budget, about 20% from the budget of the Republic/Federation, about 10% from funds collected from the users of educational services (students and organizations), and about 10% from other sources (grants, contracts, contributions, etc.). Since primary education is obligatory, the federal government would help equalize educational expenditure by distributing more of its share to poor cantons than to rich ones. All agree that primary education should be essentially free while tuition and other fees might be introduced at secondary and higher education levels.

Higher education finance is even more precarious and uncertain. Traditionally, as in most socialist states, higher education has been free in the former Yugoslavia. Now, higher education institutions are re-opening and new ones are being created in Bosnia-Herzegovina. In the case of the new Faculty of Philosophy (Pedagogy) of the University of Tuzla, facilities are very limited, consisting of a large lecture room and two smaller rooms and a several faculty members. How these many institutions will be financed in the future is unclear.

There is some talk of undergraduate tuition and fees, much as in happening in most of the former socialist countries, and at the University in West Mostar, tuition fees have been established for students who wish to study part-time while they are working. In this case, fees are set by the faculty. Just before the outbreak of hostilities in 1990, token tuition fees had been introduced in the universities, but these have been canceled since the war broke out.

Graduate degrees in At the University of Sarajevo, we have been told, involve various fees and costs involving reproduction of theses. These can total some DM1,000 (about US\$700) during the degree program. Under present economic conditions, many graduate students can not afford these fees and the Soros Foundation has helped by providing scholarships to cover such fees.

If more fees and/or tuition charges are introduced in order to help finance higher education, the implication of this must be carefully explored. Most countries that have gone this route have set up government-sponsored or guaranteed student loan schemes so as to be sure the fees do not exclude capable students who can not afford the fees. Similarly, many formerly socialist countries are combining former research institutes with the universities with the idea that universities will combine research and teaching. In this way, universities can be expected to sell research, development and consulting services to business and industry, thus partially financing themselves. Involving faculty members in such activity also enriches teaching. Apparently, in Bosnia-Herzegovina, there is a mixed system whereby some research institutes exist as integral parts of universities while others exist independently. In future higher education planning exercises, an analysis of the role of research institutes within and outside universities should be analyzed and alternative arrangements explored.

Clearly, much higher education policy research and planning activity is needed in the medium and longer term in Bosnia-Herzegovina. Some mechanism might be encouraged whereby each university and higher education institution would dialogue with the region each serves. Similarly, one or more association of higher education institutions might be established to discuss and plan policies that affect all institutions. This association or council could then dialogue with governmental authorities on questions of policy, finance and the like.

Other decisions that must be taken in the near future will be whether or not to encourage private higher education institutions. If they are to be encouraged, accreditation mechanisms and other quality controls need to be discussed.

UNESCO has indicated that it has a special interest in the reconstruction and development of higher education in Bosnia-Herzegovina. They might become the lead agency in developing programs through which local higher education administrators could share ideas with higher education faculty and administrators in other countries; through which experts could be obtained in undertaking an in-depth sub-sector analysis; through which experts could be obtained in helping local universities improve their planning and administration capabilities.

### **3. Organization and structure:**

The Ministry of Education, Science, Culture and Sports for the Republic of Bosnia-Herzegovina is located in Sarajevo and is structured as shown in Figure 1. Total staff of the Ministry is 162 (including staff in the Pedagogical and Culture Institutes) and the Ministry estimates that an additional 90 professionals would be needed for a fully functional ministry.

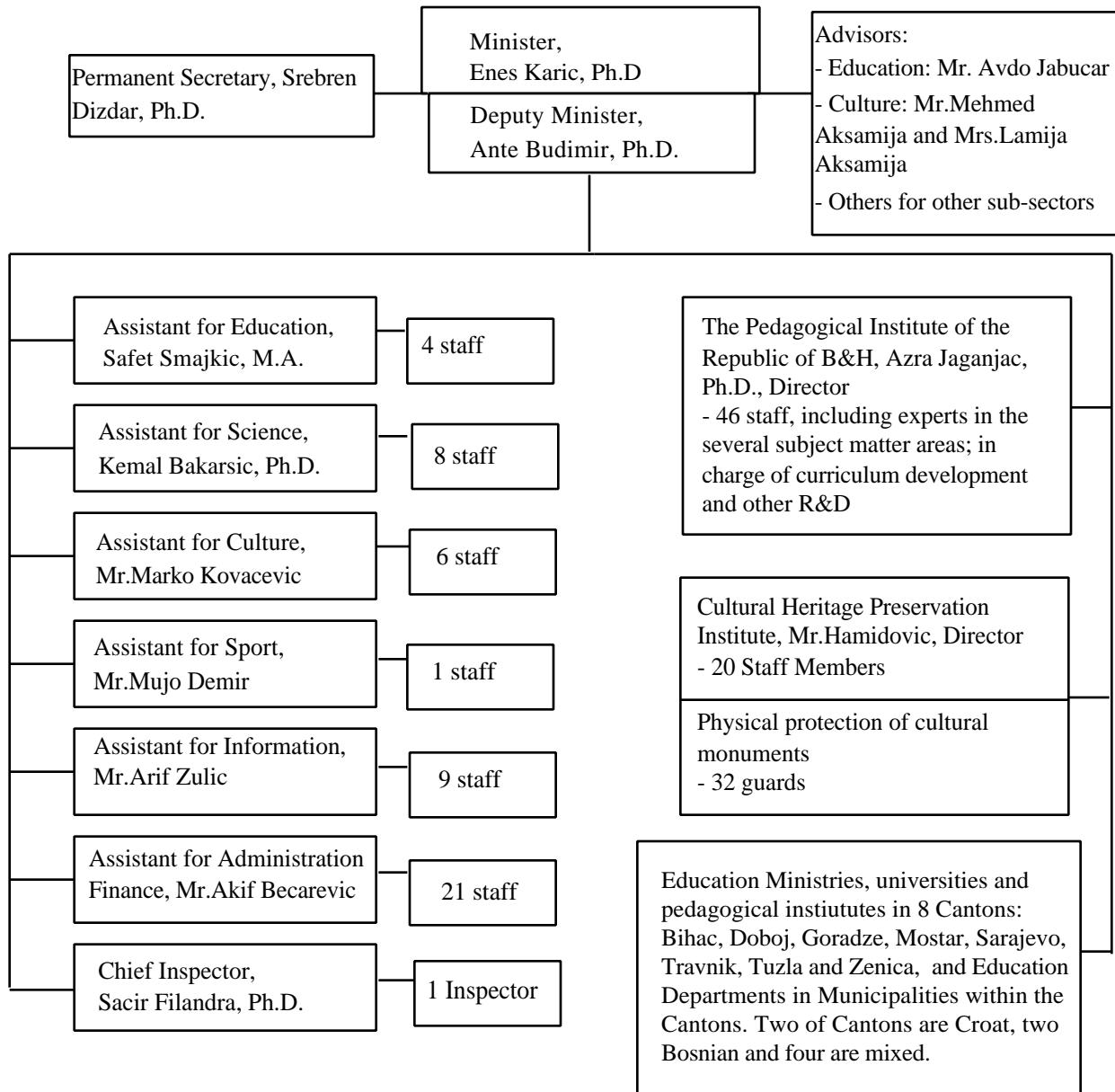
Similar ministries exist in the cantons, but their professional resources are even more limited. In Tuzla, for instance, the Ministry was formed only in October, 1994, and five staff in the Ministry have responsibility for education (along with a small Pedagogical Institute). In East Mostar, a Secretariat of Social Services has two departments, one for Education, Science and, with one advisor in each of the following: pre-school and primary education; secondary education; school organization (to help principals manage schools); out of school activities; and culture. A second department is for Health Protection. The Department of Education has organized workshops for teachers to introduce the new curriculum (this task normally would normally fall to the Pedagogical Institute but the Mostar Pedagogical Institute is in West Mostar and does not currently serve East Mostar).

In West Mostar, the education department of the Ministry similarly has four or five professionals but it also has a better staffed Pedagogical Institute with 28 staff. The Institute has curriculum advisors who go daily to schools to help the teachers, while the Ministry has three education inspectors who visit schools to see if rules are followed. Croatian curriculum and textbooks are used.

There appears to be an idea in some of the cantons that their ministries should mirror the national ministry. There is probably a need for a quite different structure at the cantonal level if the cantons are to actually administer education in a highly decentralized system. Part of the problem, of course, is that educational administrators have never been formally trained in the pre-war system, and with a tradition of a centralized system requiring little policy, planning and financial management at the local level, there is little awareness as yet of what it will take in the way of skills and organization to manage the education system in the cantons. In fact, several officials in cantons visited simply suggested that it was better to continue the centralized system, apparently in realization that they did not have either the financial or human resources to cope with a fully decentralized system.

On the other hand, in Zenica, representatives from the pedagogical academy and from both Travnik District and Visoko suggested that the canton would be able to come up with structures and institutions that mirror needs in that region and that they expected to support much of the local system in the future. Mention was made of the need for a higher agricultural school as the region

**Figure 1 - Organization of the Ministry of Education, Science, Culture and Sports  
 Republic of Bosnia and Herzegovina (November 1, 1994)**  
 Total staff in Ministry: 162



Constructed from discussions at the Ministry of Education, Science, Culture and Sports, October, 1994

has much agriculture. Officials from the Zenica region felt that there should be several two-year post-secondary (or “higher”) schools in the region, with a possibility of the graduates continuing further later. This seems to suggest the possibility of a junior college system in the future. Zenica region authorities had surveyed the community and 60% had suggested that they wanted an educational system similar to western Europe and the United States, with adaptations to suite the local environment. This would suggest a major reform effort in the future as the current structure

and curriculum in most cantons is patterned after the pre-war Yugoslav system.

Of the moment, finance issues are being discussed largely at the national level within the ministries and the legislature in Sarajevo. Such finance issues, however, are dependent to a large degree on how the cantons and municipalities organize their local governments and their education systems. If it is to be a true cantonal system, each canton and municipality will have its own legislative and tax structure and a great deal of control over its educational system, perhaps even to the extent of deciding on much of the curriculum, the textbooks to be used, the fees to be charged, etc. The federal government, in turn, will have its own taxing authority, as authorized by the cantons. Federal funds will be used to assure educational equity among the cantons (as well as for other national needs, as defined by the cantons and the federal legislature).

Clearly, the cantons and municipalities, on the whole, have not as yet the infrastructure, tax base or human resources to establish a fully-functional cantonal government and educational infrastructure. There is, in turn, little tradition in educational policy, planning and finance at the local level. In the past, education was planned and largely financed at the national level, although productive enterprises often supported secondary-level education that related to the jobs necessary in these enterprises. Future planning should include the training of educational policy planners and administrators for work in the national and cantonal Ministries of Education and educational administrators for work in the municipalities. Such training should include modules that deal with modern techniques of educational policy, planning and administration, and modules that alert the trainees to the innovations currently underway in countries worldwide in curriculum, methods, structures and finance of education. In a decentralized, cantonal system, educational administrators at all levels have many more tasks than in the previous, highly centralized system.

Some of the new tasks that must be undertaken by planners and administrators in the new decentralized system include the following:

- Management information systems must be established in each canton to gather information useful in decision-making. Such systems are more than statistics gathering, although good statistical information is necessary. Data on internal efficiency of the system must be gathered: per-student cost at each level; drop-out and repeater rates; methods of cost reduction, etc. Data on external efficiency must be generated: how well the system meets the needs as seen by parents, by business and industry, by government authorities; how well the system prepares young people for a democratic system and a market economy. These data can be very simple in the beginning, but a tradition of collecting and analyzing such data must be established.

- Techniques of educational projections, including costing of instructional resources, maintenance, administration, etc., must be developed.

- In a system where costs are to be shared amongst municipalities, cantons and the federal government, new kinds of fund accounting systems must be established at the several levels in order to track income from various sources and expenditures at various levels.

- The former system of inspection must be re-thought to bring it in line with the new decentralized policies. What should be the role of school inspectors in the new decentralized system? How should school inspectors relate to the Pedagogical Institutes that also have a role in assuring quality (however defined) in schools?

- Teacher assessment and certification standards must be re-thought in the light of the new Secondary Teacher Training Schools and the need, in general, to think of new kinds of teacher

skills necessary in the future educational system. Competency-based approaches to teacher development and assessment (as used in many western countries) might be worth exploring. This would imply a re-thinking of the complex curricula in the teacher training institutions (see Teachers and Teacher Training section, below).

- In-service teacher education schemes will have to be developed at the municipal and cantonal level. For instance, if the curriculum is to be simplified in the future, with more active methods and other innovations introduced, teachers will have to be re-trained in-service, either through teacher's centers or workshops or some kind of distance education or a combination of approaches.

- Systems of examinations and student assessment must be re-thought. To what extent should there be national examinations? Canton, municipal and school examinations and evaluations? How will all of these forms of evaluation work together? What is the role of the national, cantonal and municipal authorities in all of this?

- Ways of judging the quality of individual schools and schools of each municipality and canton must be rethought. Quality is more than achievement on exams. The extent to which each school develops an active methodology, for instance, that encourages students to be creative and innovative (essential elements in developing a market economy) might be part of quality assessment. In addition, equity issues must be addressed, with those schools in poor cantons receiving special attention. Gender, religious and ethnic issues must also be addressed.

- Ways of formalizing the relationships between the work of the Pedagogical Institutes, the Universities, the Institutes of Education, the Secondary Teacher Training Academies and other educational institutions and organizations in each community must be found.

- Ways of integrating the interests of the business community and the parents into educational decision-making must be found. Perhaps each canton should have a working group representing various community interests to discuss policy and planning issues and to make recommendations to the legislature and administrators of the system.

If such training were to take place elsewhere, with participants from the various cantons in residency together for a period of months to dialogue among themselves while undertaking the training, some understandings might be forthcoming that would be useful in restructuring the cantonal and national systems upon their return. If, at the same time, the training were part of a programmatic project, with technical cooperation provided in a variety of educational development areas, a focussed, long-term impact would be possible.

### **3. Curriculum, methods and student evaluation:**

The Ministry has developed, through the Pedagogical Institute in Sarajevo, a detailed curriculum revision and textbooks for the schools, most of which have now been printed and most have now being distributed to the schools that are easily accessible. All of this work was done during 1993 and 94. The Pedagogical Institute wrote a very detailed three-volume curriculum revision document that includes the curriculum plans (subjects and number of hours a week they are to be taught at each level) and detailed programs (what is to be covered in each subject at each grade level). Authors subsequently developed manuscripts following these plans and detailed programs. Authors' manuscripts were submitted to a competition and the winning manuscripts were selected by evaluation committees that generally included three persons for each subject, one from the Ministry, one expert, often from a university, and usually an experienced teacher. The

major change from the pre-war curriculum, we are told, is that there is much more emphasis on Bosnian history, culture and language than in the earlier curricula.

These textbooks have been printed with help from the Soros Foundation, UNICEF, Danish aid and others and have been distributed to schools in most areas controlled by the Bosnia-Herzegovina military that are accessible by road. Some 56 texts are already available and two math books for grades one and two are almost ready. Ten more will be printed by the end of 1994. About 270 texts are expected to be completed by next August and 5-7 million copies will have been printed. Several tons of paper have been contributed by Denmark for textbook production. There has been some criticism of the fact that the books were printed outside Bosnia; this was done, according to the Ministry of Education, in order to get the best price and to move rapidly in an emergency situation. In the future, the texts will be printed in Bosnia in order to stimulate the recovery of the printing industry in the country.

The books seen by the mission (early reading and writing books) are attractive and well done. The BiH Government, with some assistance by UNICEF, is making special effort to be sure that available books reach all schools that want them before the end of the year, including schools in enclaves difficult to reach. The schools in West Mostar, however, are using the Croatian curriculum and books published for Croatian schools.

The number of texts completed or in the pipeline (some 270 for the elementary and secondary schools) is an illustration of the complexity of the curriculum. Few such systems in western countries require such large numbers of individual titles of books. Few such systems, of course, have as many different courses required in the various elementary and secondary schools. Once emergency aid is no longer available, the very cost of so many titles will be difficult for the system and/or the parents to support.

We have been told that there is a system to loan the books to students and to use them for two or more years before new editions are needed. At the same time, we were told that in many localities the books were simply being given to the children. If the latter is the case, there could be a renewed shortage of texts as early as next year.

The curriculum is traditional, with the first four years to be offered in elementary schools with one teacher per class, each teacher offering all subjects. From grades five through eight (the final grade of elementary school), the instruction is by specialist teachers. At the secondary school level, there is a grammar school with a traditional academic program meant for the top students inclined to proceed to the university, plus vocational schools (for crafts and trades) and technical schools (for skilled technicians).

The curriculum is heavy with many subjects and is highly structured, with instructions on what to cover week by week and day by day (see Table 4, Primary School Curriculum Plan, and Table 5, Grammar School (Secondary) Curriculum Plan, following the ANNEX at the end of this document). The schools are traditionally organized for lectures with limited opportunity for group work, discussions or other methods in the required academic subjects. In one of the cantonal pedagogical academies (teacher training institutions), methodology training was described as instructing the teachers-in-training in how to give a good lecture.

At the same time, other kinds of activities are suggested beyond and outside the traditional academic subjects and the number of hours are prescribed for each. For instance, the educational structure of grammar schools (see Table 5) are described as follows:

- regular instruction (teaching)
- optional instruction
- out of school activities (free activities)
- work with gifted and talented students (for primary school, this involves “additional courses”; there are also remedial courses in primary school)
- work with the class
- cooperation with the family
- public and cultural activity

**REGULAR INSTRUCTION** is the most organized aspect of educational work. It provides broad and qualitative education within particular teaching subjects. Regular instruction is obligatory for all students.

**OPTIONAL INSTRUCTION** can be organized for religious classes, foreign languages, economics, office machinery, agriculture, domestic science etc. The student is not obliged to attend this instruction. If the student finishes it successfully, the mark will be put in the certificate, but if the student fails, the information of attending the instruction will not be written down.

**OUT OF SCHOOL ACTIVITIES** are realized through clubs, societies etc. This program develops creativity but also relaxation of body and spirit. Through literary, theater, film, historical, musical, folk, art, sport, technical and other societies, through plays, competitions, meetings, visits, excursions, camping, performances and manifestations, the student acquires knowledge and skills which regular instruction does not offer. Out of school activities are free both for the teacher and the student. This program is established within the annual program of school work.

**COURSE INSTRUCTION** is organized in block-days. Educational programs which are not part of regular instruction are realized by this kind of instruction. According to school facilities and interest of students, parents and founders, the school in its annual work program can plan course instruction for swimming, skiing, playing on musical instruments etc.

**SPECIAL PROGRAMS** are intended for gifted and talented students. Every year these programs are complemented by new knowledge and adopted to students' needs. These programs are established within annual program of school work as well.

**WORK WITH THE CLASS** is the duty of the teacher who is responsible for a particular class unit, as well as a duty of the students, according to annual program of school work.

**COOPERATION WITH THE FAMILY** is realized through regular parental meetings, public meetings of all parents of the school, individual contacts with parents or tutors in accordance with established program of school work.

**PUBLIC AND CULTURAL ACTIVITY** is realized through cultural-entertainment performances, sport and other competitions, literary groups, exhibitions, celebrations of important dates, voluntary work drives etc. in order to connect the school with the neighborhood, which should be planned by the annual program of school work.

All of these activities must be organized in the early part of the school year and they become part of the annual plan of work. This suggests that there may be little opportunity for spontaneity in the conduct of extra-curricular activities, but there is clear recognition of the need for such work as part of the school program.

In the curriculum tables, language study is listed as Bosnian Language and Literature. We were informed in November, 1994, that the official policy will be to offer “Bosnian, Croatian and Serb language and literature” in the schools, with each school choosing one or more of the three. This regulation seems not to be reflected in the four volumes of curriculum outlines completed in late 1993 and early 1994 and from which the outlines in the curriculum tables have been taken. The multi-language policy appears to be further evidence of the attempts of the government of the BiH to encourage different language groups to support the Federation.

According to the primary school curriculum plan, students should not have more than 25 teaching hours of regular teaching per week, though additional activities might involve additional time. The academic year is 38 weeks or 190 working days, but program content should be completed within 36 teaching weeks or 180 teaching days. At the eighth grade (final year of elementary school), the academic year is shorter by two weeks.

The two weeks beyond that needed for curriculum coverage is used for special programs connected with national and religious holidays and for cultural and public school activities.

In the kindergartens, primary and secondary schools of Bosnia, the Bosnian language is used and in the Herzegovina schools, the Croatian language is the medium. Both are written in the Latin script and are basically the same language, though some words and expressions may vary. For other ethnic groups, instruction can be held in languages of those ethnic groups. In the primary and secondary schools, as a rule, a student chooses and studies one of the following foreign languages: English, French, German, Russian, Arabic, Spanish, Turkish or Italian.

Teaching activities involving the required curriculum take place during five working days per week (Monday through Friday), while other activities can be carried out during working Saturdays and during the summer and the winter break.

Additional instruction is to be available primarily for gifted students to allow them to progress faster through the system and to help them further develop their talents. In addition, if school facilities permit and if the parents and children are interested, foreign language study can begin from first to third grade and it can be structured as an optional subject from fourth to eighth grade. Religious education lessons are optional as well.

When organizing course instruction, practical work and exercises, the class may be divided into two groups, except when there are less than 25 students in the class. For certain subjects, practical work and laboratory exercises, the class should be divided into two groups.

Each school is to develop an annual program of school work that will include other activities and student requirements not included in the regular teaching procedure established by the national curriculum plan.

In addition to the general primary school curriculum, there is a primary school of music and a primary school of ballet in Sarajevo. Students at these schools can take the general primary school curriculum in one school and the music or ballet specialization at the specialized school. Other cantons have similar specialized schools.

Student evaluation is done exclusively by the classroom teacher. As yet, there is no plan for a national assessment from time to time in order to compare the relative achievement of regions and schools. Some informants have indicated that performance during the past year in the schools of Sarajevo was poor. This would be understandable, if, indeed, it is the case. Most schools were

just beginning to operate on a more or less uninterrupted schedule, few textbooks were available (and the new textbooks prepared last year were not yet available), there was a shortage of teachers and many teachers, students and parents had been severely traumatized by the war.

At the secondary level (grades nine through twelve), the heavy curriculum with many subjects continues. At this level, the curriculum is made more complex by the provision of separate curricula for general, specialized and vocational secondary schools. Tables 5 through 9, below, show the curriculum for the general secondary school, the philological grammar school, the natural science-mathematics secondary school, the mathematics-informatics (computer science) secondary school, and the secondary sports school. These schools suggest that young people at grade eight must choose their careers and enter (or try for entry) to a specialized secondary school that offers no alternatives for students after grade eight. Such a system would seem to be out of step with the more flexible comprehensive secondary schools that are increasingly the rule in western countries.

Clearly, this curriculum reflects a traditional concern in the region for highly academic programs with many subjects. The program for the secondary teacher training school for kindergarten teachers is equally as complex as illustrated by Table 11. It is not clear if the authorities have calculated the cost of establishing these schools nor is it clear whether they have examined alternatives to such a complex and subject-oriented curriculum.

Further, such schools raise the question of relevance to the population of the country when peace finally breaks out in the future. Many parts of Bosnia-Herzegovina are rural and agricultural. The emphasis on highly academic and specialized secondary schools that have little relevance to many sectors of the economy perhaps should be re-examined.

Finally, the cost, both in human and physical resources, of such a rigid specialized school structure must be examined by financial and economic planners. To suggest that the educational system be based on such a structure without examining the short and long-term costs is simply postponing serious trouble.

The secondary vocational and technical schools follow the same over-specialized tradition. The curriculum includes many vocations that are patterned after the many specializations offered in the pre-war socialist system when graduates were prepared for state industries that were committed to hire them. Tables 12 and 13 list the many specializations in the plan for the secondary vocational and technical schools. At some point in the very near future, those responsible for these schools should be encouraged to examine the cost of running such schools and the possibility of combining some specializations into more general skills packages that are useful in a variety of occupations. Further, in a market economy, craftsmen and skilled technicians often create their own service shops and small businesses and the skills necessary for such entrepreneurial activity probably should be integrated into the curriculum of these schools. A major revision of the entire vocational/technical education structure will be needed in the very near future.

#### **4. Teachers and teacher training**

The numbers of teachers available in the system have dropped dramatically since the war (see Tables 1 and 2, above). Many teachers have migrated and others are in areas not controlled by the RBiH government. Although figures are not available, interviews with educators in Sarajevo and several of the cantons suggest that a number of less than qualified teachers are being used at all levels of the system. For instance, we were told in the Zenica region that only 10 percent of the teachers in Novi Travnik were qualified.

Primary teachers (kindergarten through fourth grade) were traditionally prepared in two-year post-secondary Pedagogical Academies. The government, however, has recently decreed that Secondary Teacher Training Schools be established in order to begin producing additional primary school teachers (for grades 1 through 4) rapidly. These are similar to such secondary schools that existed many years ago and many feel that it is a step backwards to re-establish them again. These are secondary schools that take elementary school (grade eight graduates) and give them a four-year program to prepare them to teach all subjects given in the first four grades. Students in each grade stay together at this level and one teacher handles all subjects. Most cantons seem to have opened such schools in the fall of 1994. Table 10 shows the approved curriculum of these schools.

At the more advanced levels of elementary school (grades five through eight), individual teachers handle subject specializations and move from class to class. These specialist teachers traditionally have been prepared in two-year pedagogical academies but will now be prepared in expanded four-year programs in the Educational Academies as well. In fact, the plan seems to be for these Academies to become Pedagogical Faculties of existing universities. The Academy at Tuzla just this past September (1994) has become the Faculty of Philosophy of the University of Tuzla. No philosophy is taught in the new faculty and one of the vice-deans opined that perhaps the faculty should be called "education" rather than "philosophy."

There is currently no formal teacher certification other than certification by virtue of holding a certificate of completion from an Education Academy, a university or one of the new secondary teacher training schools. Teachers without such certificates may teach as emergency teachers under the supervision of a university professor. Apparently, when teachers begin again to receive proper salaries, there will be a pay scale for graduates of the new secondary teacher training schools, a higher scale for Pedagogical Academy two-year graduates, and a still higher scale for university graduates and graduates of four-year Pedagogical Academy graduates. Those in lower categories will probably be able to do part-time additional courses to move up the pay scale. How this will work is not at all clear. Certainly, there should be a system established to permit unqualified teachers who have staffed schools throughout the war to upgrade their skills and to receive full teacher qualification.

Although the Pedagogical Institute at the national level and similar institutes in the cantons (including one for the municipality of Sarajevo in addition to the national institute in Sarajevo) have a responsibility to supervise and advise teachers concerning their teaching methodology, there is no system for evaluating teacher performance and no plan for continuous in-service teacher education. A school inspection service exists under the federal Ministry of Education and in most of the canton, but at the federal level it consists only of a chief inspector and one other inspector and in the cantons usually one or two inspectors. These function more as auditors of schools rather than as professional advisors or counsellors. It would appear that some further thinking on teacher assessment and in-service training needs would be appropriate, as well as a re-examination of possible alternatives to the current inspection system.

There appears to be no thought of teachers' centers that would provide a place for teachers to meet and discuss their work among themselves. Such centers, in one form or another, are increasingly popular in western countries, but local interest seems to be in the more traditional pedagogical institutes where wise men and women dispense wisdom in formal training courses.

There would seem to be ample room for programs and projects that would encourage innovation in teacher education, both pre-service and in-service.

## **5. Adult and non-formal education**

The mission did not encounter a highly developed sense of the importance of adult, non-formal and continuing education among the officials and educators interviewed. There are, of course, a number of training courses offered by NGO's and various inter-governmental organizations involved in the emergency effort. Some officials spoke of the need for in-service teacher education. Others spoke of the need for various kinds of extension activities, similar to agricultural extension and rural education programs in many countries. Others were interested in distance education programs, either by radio or by correspondence education packages.

Radio Zid Sarajevo has embarked on a youth radio program with UNICEF assistance. The program has attracted much enthusiasm among young people in Sarajevo. The radio station is interested in expanding its work into distance education approaches. Other may also be interested in furthering distance education.

As normalcy becomes the norm in the country, attention undoubtedly will focus on the retraining of those displaced or injured during the hostilities. UNESCO has assisted numerous countries in the establishment of non-formal and adult education programs to rehabilitate and re-train handicapped persons in useful and employable skills. UNESCO has also advised on programs to re-train and rehabilitate rural and urban populations that have been displaced during conflicts. The possibility of encouraging such programs should be examined with some urgency in BiH.

Future sector analysis work should include an analysis of current programs in adult and non-formal education and possible roles for such activity within the over-all educational development plan.

## **6. Educational research and development and management information systems**

Educational research and development appears to be the responsibility of the Pedagogical Institutes in BiH. There is a national Pedagogical Institute in Sarajevo that generated the very detailed new curriculum, introduced in 1994. It supervised the selection of manuscripts that will become textbooks and the printing and publication of these texts. The Institute also has units that deal with the design of school buildings, the study of educational administration, the provision of scholarships, and the in-service training of teachers.

Cantons generally have their own pedagogical institutes that perform somewhat similar functions. All, however, have limited resources and have lost much of their staff during the war. The Director of the national Institute in Sarajevo indicated that they lost 90% of their staff.

A most useful project in the future would be to encourage the national institute and the cantonal institutes to map out a research policy and plan for the future. What are the kinds of educational issues that need action and survey research in order to provide information for decision-making? Which institutes might concentrate on what issues? How can information be shared between and among the institutes? How can the educational research and information services of BiH link with world systems? The ERIC system in the United States, for instance, is available on CDROM and can be available in BiH for the cost of a subscription to the disks. UNESCO and the International Bureau of Education provide various information services on CDROM, as well. In addition, of course, to accessing worldwide information resources, BiH should be feeding its information into the world systems.

For the immediate future, educational research and information systems in BiH should concentrate on information for decision-making as the education system rebuilds and changes to meet the imperatives of the future. Accordingly, there should be close coordination between the Ministries of Education in Sarajevo and the various cantons and the Pedagogical Institutes in order to establish a research agenda related to future decisions that must be made.

At the same time, each Ministry should set up a management information system that can provide policy-makers and decision-makers with information useful in decision-making. UNESCO, for instance, has developed a simulation model for assessing the cost and effect of various possible alternatives as educational decisions are being made. This has been used by the Bangkok regional office of UNESCO in small nations in Southeast Asia. USAID, through various American universities, has funded the development of management information systems in many countries in Africa and Asia (including both large countries such as Indonesia and smaller ones such as Botswana and Angola).

### **First steps toward a systematic approach to rational educational development, innovation and reform**

As can be seen in earlier sections of this sector review, the educational system in Bosnia-Herzegovina is still in a crisis stage and the rebuilding of schools, the supply of teachers and textbooks and the provision of teaching and other school supplies remains urgent. At the same time, the governments of the various cantons and the embryonic Federation of Bosnia-Herzegovina are making progress in discussing long-term policy and cooperation.

Many professionals in various aspects of education have left the country and the rebuilding of the human resource base necessary to plan, develop and manage the future system would seem to be of high priority. We would suggest that teams of ministry of education officials from the various cantons be sent abroad for in-service training in educational policy planning, management, curriculum innovation and development, strategies of teacher assessment and training, achievement assessment, etc. Many universities abroad offer short-term training courses for specialists from other countries (the University of Pittsburgh is one); UNESCO's International Institute for Educational Planning offers outstanding short-term courses in policy and planning; many bilateral programs offer fellowships for short and long-term training in the educational institutions of their countries. In addition, some donor programs provide study tours so that officials and educators can visit like institutions and programs in other countries to see how education is planned, managed and financed in other countries, and to see the various curriculum options that are being pursued.

Of special importance is to develop specialists in the country who are aware of educational trends in other countries. The future system of education in BiH must draw on the latest innovations elsewhere and must develop human resources that are competitive in a world economic system. This means that the education system must be re-thought in terms of what kinds of skills, knowledge, attitudes and ways of thinking are appropriate for a competitive world environment. Methods and content of education must create entrepreneurs who can create jobs; specialists who can move from industry to industry, learning along the way; citizens who have learned how to learn rather than those who get certificates only to obtain a job.

This current paper is a brief sector review based on a two-person mission for a period of several weeks. **In the very near future, the government should consider working with funding agencies to plan a major sector analysis that would provide greater**

**detail as to what is needed in the future, what the options might be for moving the system toward normality, and further detail on the kinds of technical cooperation needed to help the government build an effective, cost-efficient, relevant system.**

In the meantime, the following section outlines some projects that the government may wish to discuss with multi-lateral and bilateral donors. This list is not at all extensive, but is meant to be suggestive. It is based on ideas and suggestions collected by the mission during its work in the country.

### **Possible technical cooperation projects**

The following ideas are presented in programmatic fashion, with the idea of introducing continuity in each area. At the same time, however, individual experts or exchanges in any of the areas would help in stimulating thinking and in providing training for trainers in the several areas.

#### **1. A Policy, planning, management and management information systems project.**

This might involve experts to work with the Ministries of Education in the various cantons and in the Federation headquarters. The project would include participant training abroad and expert advice and training within BiH. The project might be done through a foreign university with experience in international and development education.

If done through a cooperating foreign university, the project might involve graduate (doctoral) students from the foreign university who would work with Ministry of Education authorities in each canton and with Federation authorities. Teams in each canton would do comparable planning exercises and set up comparable management information systems. The project would be jointly supervised by high-level faculty members from the cooperating foreign university along with specialists from the Ministries of Education in the Federation and the cantons.

#### **2. A curriculum and textbook planning, innovation and development project.**

A remarkable task is underway to provide textbooks in 270 subjects for the Federation schools. These, however, follow closely the format of the curriculum before the war (though social science content has been modified). Other formerly socialist European countries have made major changes in their teaching content and methods over the past several years and major changes are still underway. New curricular approaches in other regions also may have something to offer the Federation.

A major project to provide for curriculum, methods and textbook planning experts and to send participants abroad for various periods of training should be considered. The various pedagogical institutes in the country would be involved in this effort as this is where most of the curriculum and methods work is being done.

In addition, however, the cost implications of various approaches to textbook production and distribution must be considered. A study of textbook options for the future should be a part of this project. Of the moment, some 270 texts are being produced for the primary and secondary school. From both a curriculum and textbook cost perspective, it would seem imperative to look at other curricular options. From the point of view of a relevant education for a post-war BiH, innovations should also be sought.

Finally, series of workshops and seminars on curriculum aims and goals (including attitudes, skills and knowledge considered appropriate for the future) might be held to clearly define the citizens of the future that the education system should be creating. Part of these workshops would deal with the methods necessary to develop attitudes and values considered so important by most teachers and educator with whom we spoke.

### **3. A student assessment and examination development project**

As the system progresses, there will be a need for a standardized examination system to provide authorities with information on how the entire system is progressing in terms of achievement. The current system of relying on teacher evaluations is fine, but there should be a system whereby comparative data can be collected from time to time to assist authorities in seeing if there are achievement problems between and among ethnic groups, geographic regions, or individual schools. A project with the national Pedagogical Academy in Sarajevo and a foreign institution experienced in student assessment procedures might involve expert assistance and participant training.

### **4. A teacher education planning, innovation and development project**

As noted in the body of the report, there is a major effort to create new teacher training institutions in BiH and to expand existing institutions. The curriculum and program of these institutions is very traditional and does not reflect western trends in teacher preparation. Further, the programs do not as yet include well-structured in-service efforts that will be needed in the future.

One or several local pedagogical faculties in BiH may wish to team with one or more foreign pedagogical or education faculties to explore new options. This would involve exchange of faculty members, the development of new teacher training curriculum and methodology, and participant training so as to develop additional specialists for the teacher training institutions in the country. New approaches to assessing teacher competency might also be explored, along with new ways of offering in-service training and certification at various levels, kindergarten through secondary levels.

A related project might involve experts to work with several of the secondary teacher training schools and participant training abroad for key faculty members of these institutions.

### **5. A technical and vocational education innovation and planning project.**

The specialized kinds of vocational and technical education done in the past may not be appropriate for the future needs of the country. As can be seen from the curriculum tables dealing with technical and vocational education, the system is designed to prepare workers for industries in the former socialist command economy. In addition, such schools are expensive and require careful planning and administration to be effective.

A major project might well be to ask a country or international agencies such as UNESCO and ILO to mount a major effort to plan and help develop innovations in vocational and technical education. The population of the new BiH will be different than before the war and the economic structure will likely develop somewhat differently than before the war. The vocational/technical system will be at the heart of developing innovative, flexible manpower that can help develop the new economy. The country must borrow from the latest trends in this field worldwide as it develops its new educational system.

## **6. A university planning, development and administration project.**

The universities of the country are expanding their programs rapidly without a clear notion of how much these will cost, what the long-term demand might be, and without clear notions of how to develop and manage universities most efficiently. In addition, new curriculum approaches to meet the demands of a post-war market economy have not been examined in detail.

The post-war university system can not count on full support from the Federation. Universities must find ways of supporting themselves through user fees, research contracts and other efforts. All of this requires highly trained administrators in individual universities and probably will require new approaches to inter-university planning and administration. It will also require new mechanisms for inter-university planning through university councils and associations.

In the future, the question of private universities will likely arise. The implications of encouraging private universities need to be studied. Questions of accreditation, financial accountability, etc., need to be examined.

We suggest a major project in university planning, development and administration, perhaps with a consortium of foreign universities that could provide faculty and administrator exchanges and in-service training, both abroad and in BiH. UNESCO's UNITWIN program can help by twinning foreign universities with local universities. Bilateral efforts through the British Council, USIS, USAID, DANIDA, SIDA, etc., should examine possibilities with individual universities or consortia of universities abroad that might take a special interest in BiH.

UNESCO has a representative and a higher education specialist in Sarajevo. UNESCO recently has suggested a series of activities including:

- repair and construction of university buildings
- research grants
- provision of office and laboratory materials
- provision of books, textbooks and journals
- provision of visiting professor
- provision of sholarships
- provision of access to international electronic networks (internet, etc.)

Donors are encouraged to work through UNESCO funds-in-trust programs to implement these and other UNESCO-related higher education activities.

## **7. A non-formal and adult education project to deal with handicapped and displaced citizens and with in-service training for the new post-war economy**

Large numbers of young people and adults will have to be re-trained because of dislocation, physical handicaps and trauma. Although small efforts sponsored by UNICEF, NGO's and others have dealt with some of these short-term issues, a longer term plan of action is needed. UNESCO has expressed interest in such efforts and may be able to take the leadership in planning such a program.

Problems of re-training teachers, workers, specialists, businessmen and others for the new post-war economy and society will also require extension programs, distance education efforts and

new kinds of on-the-job training efforts. With decentralization policies at work in the cantons, new kinds of community centers, youth groups and clubs will probably need encouragement. NGO's should be encouraged to help create such community-directed programs. In addition, agencies and NGO's might be invited to help develop distance education efforts in Sarajevo and the various cantons.

Most countries have equivalence degrees that can be acquired through some kind of non-formal study and distance education. A project to study such approaches might be appropriate in BiH.

#### **8. A project to develop possible options for the privatization of education.**

Most formerly socialist countries have moved in the direction of permitting or even encouraging private schools and universities. Some have done so without careful consideration of the implications of privatization. A system for assuring quality of private institutions (accreditation) must be developed. The long-term impact of privatization on the finance of public education must be studied. Legislation regulating private education must be passed, assuring some financial and quality accountability, must be developed. All of this needs careful study and analysis if pitfalls are to be avoided.

Religious communities have already begun systems of education in BiH. These efforts must be integrated into the total system. Private non-religious schools and even universities will develop in the future and planning for these events should take place earlier rather than later.

#### **9. A project to develop libraries for university faculties in BiH.**

An urgent need is felt by most university faculties (including but not limited to pedagogical faculties) for current, up-to-date scientific and education materials. Agencies that provide books and periodicals should consider organizing several well-selected collections of a broad range of education-related materials for deposit in the post-secondary institutions and universities (including education and teacher training faculties of the various cantons). In addition, gifts of subscriptions to education periodicals in various languages would be most appreciated.

In the Education area, turnkey pedagogical libraries might include sections on policy, planning and administration; pedagogy in various disciplines (math, science, social studies, etc.); educational technology, including computers in education; curriculum planning; etc.

Book translation programs should consider the selection of key education materials in other languages to be translated into local languages for possible use in the education faculties at both universities and teacher training schools. In addition, because of the difficulty of transporting book materials in several areas of BiH (including Sarajevo), the possibility of sending material on disk and/or CDrom should be considered.

#### **10. A radio education project, with listening groups in the several cantons**

As reconstruction progresses, there will be need for increased participation of the cantons in dialogue about development issues. There are already embryonic radio education schemes in BiH and these should be built upon and expanded.

## **11. A school design project to examine ways of building efficient schools that enhance teaching and learning.**

Schools in the former Yugoslavia were designed for a formal lecture methodology with inflexible space, immovable desks and few resources for innovative teaching approaches. In addition, many were inefficient from the point of view of heating and maintenance, with high ceilings, monumental hallways and public spaces, and otherwise wasted space. Many of these inefficient and inflexible schools are being rebuilt in the earlier style. While this may be necessary in the short term to provide immediate schooling for young people, it is urgent that new kinds of efficient and flexible school buildings be designed for the medium and long-term future. A project to look at these issues, in conjunction with educational planning and curriculum reform projects (see items 1 and 2, above), is urgently needed.

### **ANNEX - List of key interviews**

**(In addition to those listed below, numerous UNICEF officials in the Zagreb, Split, Sarajevo, Mostar, Zenica and Tuzla offices of UNICEF provided not only invaluable information but essential logistical help)**

#### **Zagreb and Split**

17.10.1994- - Briefing at UNICEF and USAID offices in Zagreb and at the UNICEF  
18.10.1994 offices in Split

#### **Sarajevo**

20.10.1994. - meeting with the Minister at Large of Finance - Nedeljko Despotovic  
10:30hrs. phone: 663-780

21.10.1994. - meeting with the minister of the Ministry for Education, Science,  
10:00hrs. Culture and Sport - Enes Karic, the secretary of the Ministry -  
Srebren Dizdar, the adviser for culture department - Mr. Aksamija and  
the adviser for publishing - Mr. Grahovac.  
phone: 663-691

21.10.1994. - meeting with the director of the Pedagogical Institute of R B&H -  
14:00hrs Azra Jaganjac.  
phone: 471-767

21.10.1994. - meeting with the president of the RADIO ZID - Zdravko Grebo and  
16:00hrs with Rade Jevtic.  
phone: 470-854; 443-770; 443-771

22.10.1994. - meeting with the secretary of the Ministry for Education - Srebren  
10:00hrs Dizdar and the assistant for education - Safet Smajkic. Numerous other  
informal meetings were held with Secretary Dizdar later in the mission.

## **Mostar**

- 24.10.1994. - 9:00hrs - meeting with the representative of east Mostar in EU group for education, science, culture and sport - Esad Bubic and with the secretary of the Secretariat for Social Services in municipality Mostar - Nijaz Slipicevic.
- 24.10.1994. - meeting with the deputy of the minister of the Ministry for Education in west Mostar - Mr. Palameta and the assistant of the minister - Marica Bukvic.
- 24.10.1994. - meeting with the Head of Education and Culture Department in EU - Bachmann Helmut.
- 25.10.1994. - meeting with the dean of the Pedagogical Academy in west Mostar - Josip Skutor.

## **Zenica**

- 26.10.1994. - 10:00hrs - meeting with people in charge of educational system in Zenica district: Mehmed Basic - from Secretariat for Public Activities, Muhamed Arnaut - director of Pedagogical Academy in Zenica, Nihad Suljevic - deputy of director of Pedagogical Academy in Zenica, Mithat Hadzic - secretary for Public Activities ( Travnik district), Emina Alibegovic - professional adviser for education (Travnik district), Mensura Alibegovic - secretary for education, Visoko.

## **Tuzla**

- 28.10.1994. - 10:00hrs - meeting with the director of the Pedagogical Institute in Tuzla - Ahmed Colic, the head of the department for secondary schools - Abdulah Hodzic and the head of the department for primary schools - Mugdim Cardzic.
- 28.10.1994. - 11:30hrs - meeting with the deputy of the dean of the Pedagogical Academy (Faculty of Philosophy) in Tuzla - Bahrudin Hadzihalilovic.
- 28.10.1994. - 13:00hrs - meeting with the professional adviser for finance within the Ministry for Science, Culture, Sport and Information - Fatima Murathodzic. (the minister is Enver Halilovic)

## **Sarajevo**

- 30.10.1994 - 16:00hrs - meeting with Minister Muratovic, in charge of International Organization Affairs
- 1.11.94 - 15:00hrs - meeting with William Eagleton, Special UN Coordinator for Sarajevo and John Fawcett, UNPROFOR coordinator of infrastructure development  
Phone: 387-71-445205 or 385-41-190011  
FAX: 7239 or 7616

2.11.94 - meeting with U.S. Embassy personnel, including Scott Thompson,  
16:00hrs Deputy Chief of Mission, John Menzies, and Yolanda Robinson, USIS.  
Phone: 659-969; FAX: 659-992. (Also met with Ms. Robinson on  
November 3 at 3:30 PM)

Dinner meet Maria Elena Henriques Mueller, head of UNESCO office, Sarajevo

3.11.94 - meeting with Peter Higginson, Director of Emergency Programs,  
Education Sector, UNESCO, Paris (in Sarajevo for the national  
conference)

4.11.94 National conference on educational policy, Sarajevo.

5.11.94

all day

### **Zagreb**

7.11.94 Debriefing, Tom McDermott, UNICEF Special Representative for the  
region, and UNICEF staff, Zagreb

### **Paris**

9.11.94-

12.11.94

Debriefing at UNESCO in Paris. Meetings with D. Janicot, Assistant  
Director General, and with Rok Vogric and Tom Forstenzer in the Executive  
Office of the DG; with H-W Rissom, Coordination Unit, Assistant Director  
General for Education; Birgitte Moller, Funds-in-Trust section; Mlle. G.  
Rouchet, intergovernmental organizations section; A. Bibtana, Jan Sadlak and  
D. Chitoran, Higher Education; Alexa Draxler, Secretary, Commission on  
Education for the 21st Century (Jacques Delors, Chairman); and others.

François Remi, President, French UNICEF Committee.

**Table 4 - Primary School Curriculum Plan (1994)**  
**Ministry of Education, Science, Culture and Sports, Sarajevo**  
**(Regular Teaching=hours per week; course instruction and other activities, hours per school year)**

|  | GRADES    |           |           |           |           |           |           |           |
|--|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
|  | I         | II        | III       | IV        | V         | VI        | VII       | VIII      |
| <b>I - REGULAR TEACHING PROCEDURE</b>  |           |           |           |           |           |           |           |           |
| 1. Bosnian language and literature   | 6         | 6         | 6         | 5         | 5         | 4         | 4         | 4         |
| 2. Foreign language  | -         | -         | -         | 2         | 3         | 3         | 2         | 2         |
| 3. Mathematics   | 5         | 5         | 5         | 5         | 4         | 4         | 4         | 4         |
| 4. Nature and social studies   | 2         | 2         | 3         | -         | -         | -         | -         | -         |
| 5. Music education   | 1         | 1         | 1         | 2         | 2         | 1         | 1         | 1         |
| 6. Art   | 2         | 2         | 2         | 2         | 2         | 1         | 1         | 1         |
| 7. Physical and health education   | 2         | 2         | 2         | 2         | 2         | 2         | 2         | 2         |
| 8. Nature  | -         | -         | -         | 2         | -         | -         | -         | -         |
| 9. Society   | -         | -         | -         | 1         | -         | -         | -         | -         |
| 10. Biology  | -         | -         | -         | -         | 2         | 2         | 2         | 2         |
| 11. History  | -         | -         | -         | -         | 1         | 2         | 2         | 2         |
| 12. Geography  | -         | -         | -         | -         | 1         | 2         | 2         | 2         |
| 13. Physics  | -         | -         | -         | -         | -         | 1         | 2         | 2         |
| 14. Chemistry  | -         | -         | -         | -         | -         | -         | 2         | 2         |
| <b>TOTAL</b>   | <b>18</b> | <b>18</b> | <b>19</b> | <b>21</b> | <b>22</b> | <b>22</b> | <b>24</b> | <b>24</b> |
| <b>II - COURSE INSTRUCTION (Courses requiring flexible time and resources; hours per year)</b> |           |           |           |           |           |           |           |           |
|  | I         | II        | III       | IV        | V         | VI        | VII       | VIII      |
| 15. Domestic science   |           |           |           | 36        | 36        |           |           |           |
| 16. Informatics  |           |           |           |           | 36        | 36        |           |           |
| 17. Technical education  |           |           |           |           | 36        | 36        | 34        |           |
| 18. Bases of civil defence   |           |           |           |           |           |           | 34        |           |
| <b>III - OTHER EDUCATIONAL ACTIVITIES (hours per year)</b>                                     |           |           |           |           |           |           |           |           |
|  | I         | II        | III       | IV        | V         | VI        | VII       | VIII      |
| 1. Work in the class (special class activities)  | 36        | 36        | 36        | 36        | 36        | 36        | 36        | 34        |
| 2. Free activities, social and cultural activity   | 72        | 72        | 72        | 72        | 72        | 72        | 72        | 68        |

|  |     |     |     |     |     |     |     |       |
|--|-----|-----|-----|-----|-----|-----|-----|-------|
| 3. Additional instruction<br>(for the talented)  |     |     |     | 72  | 72  | 72  | 68  |       |
| 4. Remedial courses                              | 72  | 72  | 72  | 72  | 72  | 72  | 72  | 68 5. |
| Optional instruction<br>(possible local options) | 108 | 108 | 108 | 108 | 108 | 108 | 108 | 102   |

Table adapted from approved curriculum issued by the Ministry of Education, Science, Culture and Sports for 1994/95 academic year, Editor: R B&H, Ministry for Education, Science, Culture and Sports, Pedagogical Institute, Printing: DD "Dom Stampe" Zenica

**Table 5 - Curriculum for the General Secondary School**

| I - LANGUAGE SPHERE                       | I  | II | III | IV | TOTAL | %    |
|---|----|----|-----|----|-------|------|
| 1. Bosnian language and literature        | 4  | 4  | 4   | 4  | 16    |      |
| 2. The first foreign language             | 3  | 3  | 3   | 3  | 12    |      |
| 3. The second foreign language            | 2  | 2  | 2   | 2  | 8     |      |
| 4. Latin                                  | 2  | 2  | -   | -  | 4     |      |
|   | 11 | 11 | 9   | 9  | 40    | 32,5 |
| II NATURAL - MATHEMATICAL SPHERE          | I  | II | III | IV | TOTAL | %    |
| 5. Mathematics                            | 4  | 4  | 4   | 4  | 16    |      |
| 6. Physics                                | 2  | 2  | 3   | 2  | 9     |      |
| 7. Chemistry                              | 2  | 2  | 2   | 2  | 8     |      |
| 8. Biology                                | 2  | 2  | 2   | 2  | 8     |      |
| 9. Informatics (Computer Science)         | 1  | 1  | 1   | -  | 3     |      |
|   | 11 | 11 | 12  | 10 | 44    | 32,8 |
| III SOCIAL SPHERE                         | I  | II | III | IV | TOTAL | %    |
| 10. History                               | 2  | 2  | 2   | 2  | 8     |      |
| 11. Geography                             | 2  | 2  | 2   | 2  | 8     |      |
| 12. Philosophy and Logic                  | -  | -  | 2   | 2  | 4     |      |
| 13. Psychology                            | -  | -  | 1   | -  | 1     |      |
| 14. Sociology                             | -  | -  | -   | 2  | 2     |      |
| 15. Military training                     | -  | 2  | 2   | -  | 4     |      |
|   | 4  | 6  | 9   | 8  | 27    | 21,9 |
| IV CULTURE, PHYSICAL AND HEALTH EDUCATION | I  | II | III | IV | TOTAL | %    |
| 16. Art culture                           | 2  | -  | -   | -  | 2     |      |
| 17. Music culture                         | -  | 2  | -   | -  | 2     |      |

|                                   |    |    |    |    |     |     |
|-----------------------------------|----|----|----|----|-----|-----|
| 18. Physical and health education | 2  | 2  | 2  | 2  | 8   |     |
|                                   | 4  | 4  | 2  | 2  | 12  | 9,8 |
| <b>TOTAL:</b>                     | 30 | 32 | 32 | 29 | 123 | 100 |

| V OTHER EDUCATIONAL ACTIVITIES                 | I | II | III | IV | TOTAL                                       | % |
|--|---|----|-----|----|---|---|
| 1. Optional instruction                        | 2 | 2  | 2   |    | 2   |   |
| 2. Course instruction                          |   |    |     |    | according to special plan                   |   |
| 3. Free activities (out of teaching procedure) | 2 | 2  | 2   |    | 2   |   |
| 4. Educational work with the class             | 1 | 1  | 1   | 1  |   |   |
| 5. Work with parents                           |   |    |     |    | according to special plan                   |   |
| 6. Public and cultural activity                |   |    |     |    | according to annual programme of the school |   |

Table adapted from approved curriculum issued by the Ministry of Education, Science, Culture and Sports for 1994/95 academic year, Editor: R B&H, Ministry for Education, Science, Culture and Sports, Pedagogical Institute, Printing: DD "Dom Stampe" Zenica

**Table 6 - Curriculum for the Philological Grammar School**

| I LANGUAGE SPHERE                  | I  | II | III | IV | TOTAL | %    |
|------------------------------------|----|----|-----|----|-------|------|
| 1. Bosnian language and literature | 4  | 4  | 4   | 6  | 17    |      |
| 2. The first foreign language      | 3  | 3  | 4   | 4  | 14    |      |
| 3. The second foreign language     | 2  | 2  | 3   | 3  | 10    |      |
| 4. The third foreign language      | 2  | 2  | 2   | 2  | 8     |      |
| 5. Latin                           | 2  | 2  | -   | -  | 4     |      |
|                                    | 13 | 13 | 13  | 15 | 54    | 44,6 |
| II NATURAL - MATHEMATICAL SPHERE   | I  | II | III | IV | TOTAL | %    |
| 6. Mathematics                     | 3  | 3  | 2   | 2  | 10    |      |
| 7. Physics                         | 2  | 2  | 2   | -  | 6     |      |
| 8. Chemistry                       | 2  | 2  | 2   | -  | 6     |      |
| 9. Biology                         | 2  | 2  | 2   | 2  | 8     |      |
| 10. Informatics (Computer Science) | -  | -  | 1   | 1  | 2     |      |
|                                    | 9  | 9  | 9   | 3  | 30    | 24,8 |
| III SOCIAL SPHERE                  | I  | II | III | IV | TOTAL | %    |
| 11. History                        | 2  | 2  | 2   | 2  | 8     |      |
| 12. Geography                      | 2  | 2  | 2   | -  | 6     |      |
| 13. Philosophy with Logic          | -  | -  | 2   | 2  | 4     |      |
| 14. Psychology                     | -  | -  | -   | 1  | 1     |      |
| 15. Sociology                      | -  | -  | -   | 2  | 2     |      |

|  |   |    |     |    |       |      |
|--|---|----|-----|----|-------|------|
| 16. Military training                            | -   | 2  | 2   | -  | 4     |      |
|  | 4   | 6  | 8   | 7  | 25    | 20,7 |
| <b>IV CULTURE, PHYSICAL AND HEALTH EDUCATION</b> |   |    |     |    |       |      |
|  | I   | II | III | IV | TOTAL | %    |
| 17. Art culture                                  | 2   | -  | -   | -  | 2     |      |
| 18. Music culture                                | -   | 2  | -   | -  | 2     |      |
| 19. Physical and health education                | 2   | 2  | 2   | 2  | 8     |      |
|  | 4   | 4  | 2   | 2  | 12    | 9,9  |
| <b>TOTAL:</b>                                    | 30  | 32 | 32  | 27 | 121   | 100  |
| <b>V OTHER EDUCATIONAL ACTIVITIES</b>            |   |    |     |    |       |      |
|  | I   | II | III | IV | TOTAL | %    |
| 1. Optional instruction                          | 2   | 2  | 2   | 2  |       |      |
| 2. Course instruction                            | according to special plan                   |    |     |    |       |      |
| 3. Free activities (out of teaching procedure)   | 2   | 2  | 2   | 2  |       |      |
| 4. Educational work with the class               | 1   | 1  | 1   | 1  |       |      |
| 5. Work with parents                             | according to special plan                   |    |     |    |       |      |
| 6. Public and cultural activity                  | according to annual programme of the school |    |     |    |       |      |

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**Table 7 - Curriculum for the Natural Science - Mathematical Secondary School**

|   |    |    |     |    |       |    |
|---|----|----|-----|----|-------|----|
| <b>I LANGUAGE SPHERE</b>                | I  | II | III | IV | TOTAL | %  |
| 1. Bosnian language and literature      | 3  | 3  | 3   | 3  | 12    |    |
| 2. The first foreign language           | 3  | 3  | 2   | 2  | 10    |    |
| 3. The second foreign language          | 2  | 2  | 2   | 2  | 8     |    |
| 4. Latin                                | 2  | 2  | -   | -  | 4     |    |
|   | 10 | 10 | 7   | 7  | 34    | 28 |
| <b>II NATURAL - MATHEMATICAL SPHERE</b> |    |    |     |    |       |    |
|   | I  | II | III | IV | TOTAL | %  |
| 5. Mathematics                          | 4  | 4  | 5   | 5  | 18    |    |
| 6. Physics                              | 3  | 3  | 3   | 3  | 12    |    |
| 7. Chemistry                            | 2  | 2  | 3   | 3  | 10    |    |
| 8. Biology                              | 2  | 2  | 3   | 3  | 10    |    |
| 9. Informatics (Computer Science)       | 1  | 1  | 1   | 1  | 4     |    |
| 12                                      | 12 | 15 | 15  | 54 | 45    |    |

| III SOCIAL SPHERE                              | I                                      | II | III | IV | TOTAL | %    |
|--|--|----|-----|----|-------|------|
| 10. History                                    | 2                                      | 2  | -   | -  | 4     |      |
| 11. Geography                                  | 2                                      | 2  | 2   | -  | 6     |      |
| 12. Philosophy and Logic                       | -                                      | -  | 2   | 2  | 4     |      |
| 13. Psychology                                 | -                                      | -  | -   | 1  | 1     |      |
| 14. Sociology                                  | -                                      | -  | 2   | -  | 2     |      |
| 15. Military training                          | -                                      | 2  | 2   | -  | 4     |      |
|  | 4                                      | 6  | 8   | 3  | 21    | 17,3 |
| IV CULTURE, PHYSICAL AND HEALTH EDUCATION      | I                                      | II | III | IV | TOTAL | %    |
| 16. Art culture                                | 2                                      | -  | -   | -  | 2     |      |
| 17. Music culture                              | -                                      | 2  | -   | -  | 2     |      |
| 18. Physical and health education              | 2                                      | 2  | 2   | 2  | 8     |      |
|  | 4                                      | 4  | 2   | 2  | 12    | 9,7  |
| <b>TOTAL:</b>                                  | 30                                     | 32 | 32  | 27 | 121   | 100  |
| V OTHER EDUCATIONAL ACTIVITIES                 | I                                      | II | III | IV | TOTAL | %    |
| 1. Optional instruction                        | 2                                      | 2  | 2   | 2  |       |      |
| 2. Course instruction                          | according to special plan              |    |     |    |       |      |
| 3. Free activities (out of teaching procedure) | 2                                      | 2  | 2   | 2  |       |      |
| 4. Educational with the class                  | 1                                      | 1  | 1   | 1  |       |      |
| 5. Work with parents                           | according to special plan              |    |     |    |       |      |
| 6. Public and cultural activity                | according to annual plan of the school |    |     |    |       |      |

Table adapted from approved curriculum issued by the Ministry of Education, Science, Culture and Sports for 1994/95 academic year, Editor: R B&H, Ministry for Education, Science, Culture and Sports, Pedagogical Institute, Printing: DD "Dom Stampe" Zenica

**Table 8 - Curriculum for the Mathematical - Informatics (Computer Science) Secondary School**

| I LANGUAGE SPHERE                  | I  | II | III | IV | TOTAL | %    |
|------------------------------------|----|----|-----|----|-------|------|
| 1. Bosnian language and literature | 3  | 3  | 3   | 3  | 12    |      |
| 2. The first foreign language      | 3  | 3  | 2   | 2  | 10    |      |
| 3. The second foreign language     | 2  | 2  | 2   | 2  | 8     |      |
| 4. Latin                           | 2  | 2  | -   | -  | 4     |      |
|                                    | 10 | 10 | 7   | 7  | 34    | 27,6 |

## II NATURAL - MATHEMATICAL SPHERE

|                                    | I  | II | III | IV | TOTAL | %  |
|------------------------------------|----|----|-----|----|-------|----|
| 5. Mathematics                     | 4  | 4  | 4   | 4  | 16    |    |
| 6. Selected areas of mathematics   | 2  | 2  | 3   | 3  | 10    |    |
| 7. Physics                         | 3  | 3  | 3   | 3  | 12    |    |
| 8. Chemistry                       | -  | -  | 2   | 2  | 4     |    |
| 9. Biology                         | -  | -  | 2   | 2  | 4     |    |
| 10. Informatics (Computer Science) | 3  | 3  | 3   | 3  | 12    |    |
|                                    | 12 | 12 | 17  | 17 | 58    | 47 |

## III SOCIAL SPHERE

|                           | I | II | III | IV | TOTAL | %    |
|---------------------------|---|----|-----|----|-------|------|
| 11. History               | 2 | 2  | -   | -  | 4     |      |
| 12. Geography             | 2 | 2  | -   | -  | 4     |      |
| 13. Philosophy with Logic | - | -  | 2   | 2  | 4     |      |
| 14. Psychology            | - | -  | -   | 1  | 1     |      |
| 15. Sociology             | - | -  | 2   | -  | 2     |      |
| 16. Military training     | - | 2  | 2   | -  | 4     |      |
|                           | 4 | 6  | 6   | 3  | 19    | 15,5 |

## IV CULTURE, PHYSICAL AND HEALTH EDUCATION

|                                   | I  | II | III | IV | TOTAL | %   |
|-----------------------------------|----|----|-----|----|-------|-----|
| 17. Art culture                   | 2  | -  | -   | -  | 2     |     |
| 18. Music culture                 | -  | 2  | -   | -  | 2     |     |
| 19. Physical and health education | 2  | 2  | 2   | 2  | 8     |     |
|                                   | 4  | 4  | 2   | 2  | 12    | 9,9 |
| TOTAL:                            | 30 | 32 | 32  | 29 | 123   | 100 |

## V OTHER EDUCATIONAL ACTIVITIES

|  | I   | II | III | IV | TOTAL | % |
|--|---|----|-----|----|-------|---|
| 1. Optional instruction                        | 2   | 2  | 2   | 2  |       |   |
| 2. Course instruction                          | according to special plan                   |    |     |    |       |   |
| 3. Free activities (out of teaching procedure) | 2   | 2  | 2   | 2  |       |   |
| 4. Educational work with the class             | 1   | 1  | 1   | 1  |       |   |
| 5. Work with parents                           | according to special plan                   |    |     |    |       |   |
| 6. Public and cultural activity                | according to annual programme of the school |    |     |    |       |   |

Table adapted from approved curriculum issued by the Ministry of Education, Science, Culture and Sports for 1994/95 academic year, Editor: R B&H, Ministry for Education, Science, Culture and Sports, Pedagogical Institute, Printing: DD "Dom Stampe" Zenica

**Table 9 - Curriculum for the Sport Secondary School**

| I LANGUAGE SPHERE                         | I         | II        | III       | IV        | TOTAL      | %          |
|---|-----------|-----------|-----------|-----------|------------|------------|
| 1. Bosnian language and literature        | 3         | 3         | 3         | 3         | 12         |            |
| 2. The first foreign language             | 3         | 3         | 2         | 2         | 10         |            |
| 3. The second foreign language            | 2         | 2         | 2         | 1         | 7          |            |
| 4. Latin                                  | 2         | 2         | -         | -         | 4          |            |
|   | 10        | 10        | 7         | 6         | 33         | 26,6       |
| II NATURAL - MATHEMATICAL SPHERE          | I         | II        | III       | IV        | TOTAL      | %          |
| 5. Mathematics                            | 3         | 3         | 3         | 2         | 10         |            |
| 6. Physics                                | 2         | 2         | 2         | 2         | 8          |            |
| 7. Chemistry                              | -         | -         | 2         | 2         | 4          |            |
| 8. Biology                                | 2         | 2         | 2         | 2         | 8          |            |
| 9. Informatics                            | 1         | -         | -         | -         | 1          |            |
|   | 8         | 7         | 8         | 8         | 31         | 25,0       |
| III SOCIAL SPHERE                         | I         | II        | III       | IV        | TOTAL      | %          |
| 10. History                               | 2         | 2         | -         | -         | 4          |            |
| 11. Geography                             | 2         | 2         | -         | -         | 4          |            |
| 12. Philosophy and Logic                  | -         | -         | 2         | 2         | 4          |            |
| 13. Psychology                            | -         | -         | 2         | 1         | 3          |            |
| 14. Sociology                             | -         | -         | 2         | 1         | 3          |            |
| 15. Military training                     | -         | 2         | 2         | -         | 4          |            |
|   | 4         | 6         | 8         | 4         | 22         | 17,75      |
| IV CULTURE, PHYSICAL AND HEALTH EDUCATION | I         | II        | III       | IV        | TOTAL      | %          |
| 16. Art culture                           | 1         | -         | -         | -         | 1          |            |
| 17. Music culture                         | -         | 1         | -         | -         | 1          |            |
| 18. Physical and health education         | 2         | 2         | 2         | 2         | 8          |            |
| 19. Gymnastics - rhythmic and dance       | 2         | 2         | 2         | 2         | 8          |            |
| 20. Athletics                             | 2         | 2         | 2         | 2         | 8          |            |
| 21. Sport games                           | 1         | 1         | 2         | 2         | 6          |            |
| 22. Fighting sports                       | -         | 1         | 1         | 2         | 4          |            |
| 23. Bases of psychomotricity              | -         | -         | -         | 2         | 2          |            |
|   | 8         | 9         | 9         | 12        | 38         | 30,65      |
| <b>TOTAL:</b>                             | <b>30</b> | <b>32</b> | <b>32</b> | <b>30</b> | <b>124</b> | <b>100</b> |

| V OTHER EDUCATIONAL ACTIVITIES                 | I   | II | III | IV | TOTAL | % |
|--|---|----|-----|----|-------|---|
| 1. Optional instruction                        | 2   | 2  | 2   | 2  |       |   |
| 2. Course instruction                          | according to special plan                   |    |     |    |       |   |
| 3. Free activities (out of teaching procedure) | 2   | 2  | 2   | 2  |       |   |
| 4. Educational work with the class             | 1   | 1  | 1   | 1  |       |   |
| 5. Work with parents                           | according to special plan                   |    |     |    |       |   |
| 6. Public and cultural activity                | according to annual programme of the school |    |     |    |       |   |

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**Table 10 - Secondary Teacher Training School Curriculum**  
(Secondary school for training teachers for grades 1 through 4)

| SUBJECTS                                    | I         | II        | III       | IV        | TOTAL     | %          |
|---|-----------|-----------|-----------|-----------|-----------|------------|
| <b>A. GENERAL EDUCATION SPHERE</b>          |           |           |           |           |           |            |
| 1. Bosnian language and literature          | 4         | 4         | 3         | 2         | 13        |            |
| 2. Foreign language                         | 2         | 2         | 2         | 2         | 8         |            |
| 3. History                                  | 2         | 2         | 2         | -         | 6         |            |
| 4. Philosophy                               | -         | -         | -         | 3         | 3         |            |
| 5. Sociology                                | -         | -         | 2         | -         | 2         |            |
| 6. Military training                        | -         | 2         | 2         | -         | 4         |            |
| 7. Mathematics                              | 3         | 3         | 3         | 2         | 11        |            |
| 8. Physics                                  | 2         | 2         | -         | -         | 4         |            |
| 9. Chemistry                                | 2         | 2         | -         | -         | 4         |            |
| 10. Biology                                 | 3         | 2         | -         | -         | 5         |            |
| 11. Geography                               | 2         | 2         | -         | -         | 4         |            |
| 12. Music culture                           | 2         | 2         | 2         | -         | 6         |            |
| 13. Art culture                             | 2         | 2         | 2         | -         | 6         |            |
| 14. Technical culture                       | 1         | -         | -         | -         | 1         |            |
| 15. Informatics (Computer Science)          | -         | -         | 2         | -         | 2         |            |
| 16. Physical and health education           | 2         | 2         | 2         | 2         | 8         |            |
| <b>TOTAL:</b>                               | <b>27</b> | <b>27</b> | <b>22</b> | <b>11</b> | <b>87</b> | <b>74%</b> |
|   | I         | II        | III       | IV        | TOTAL     | %          |
| <b>B. PROFESSIONAL SPHERE</b>               |           |           |           |           |           |            |
| 1. Pedagogy with didactics                  | -         | 3         | 3         | -         | 6         |            |
| 2. Psychology                               | 2         | 2         | -         | -         | 4         |            |
| 3. Developmental and pedagogical psychology | -         | -         | 3         | -         | 3         |            |
| 4. Hygiene and first aid                    | -         | -         | 1         | -         | 1         |            |
| 5. Media culture                            | -         | -         | 1         | -         | 1         |            |

|  |   |           |           |           |            |             |
|--|---|-----------|-----------|-----------|------------|-------------|
| 6. Teaching methods of bosnian language and literature | -   | -         | -         | 3         | 3          |             |
| 7. Teaching methods of mathematics                     | -   | -         | -         | 3         | 3          |             |
| 8. Teaching methods of nature and society studies      | -   | -         | -         | 3         | 3          |             |
| 9. Teaching methods of music                           | -   | -         | -         | 2         | 2          |             |
| 10. Teaching methods of fine arts                      | -   | -         | -         | 2         | 2          |             |
| 11. Teaching methods of physical and health education  | -   | -         | -         | 2         | 2          |             |
| 12. School administration and legislature              | -   | -         | -         | 1         | 1          |             |
| <b>TOTAL:</b>  | <b>2</b>                                    | <b>5</b>  | <b>8</b>  | <b>16</b> | <b>31</b>  | <b>26%</b>  |
| <b>A+B:</b>  | <b>29</b>                                   | <b>32</b> | <b>30</b> | <b>27</b> | <b>118</b> | <b>100%</b> |
| 1. Optional instruction                                | 2   | 2         | 2         | 2         |            |             |
| 2. Course instruction                                  | according to special plan                   |           |           |           |            |             |
| 3. Free activities (out of teaching procedure)         | 4   | 4         | 4         | 4         |            |             |
| 4. Educational work with the class                     | 1   | 1         | 1         | 1         |            |             |
| 5. Work with parents                                   | according to special plan                   |           |           |           |            |             |
| 6. Public and cultural activity                        | according to annual programme of the school |           |           |           |            |             |

#### PEDAGOGICAL PRACTICE, III YEAR - 5 DAYS AND 4 LESSONS

##### TEACHING-METHOD PRACTICE IN IV YEAR:

-teaching methods of bosnian language and literature,  
 -teaching methods of nature and society studies: 4 mentor lessons and 4 lessons realized by student,  
 -teaching methods of music, fine arts, physical and health education and technical culture: 4 mentor lessons and 2 lessons realized by student.

##### INDEPENDENT PRACTICE AT THE END OF THE FOURTH YEAR

-10 days of independent work in one classroom from I to IV grade of primary school.

Table adapted from approved curriculum issued by the Ministry of Education, Science, Culture and Sports for 1994/95 academic year, Editor: R B&H, Ministry for Education, Science, Culture and Sports, Pedagogical Institute, Printing: DD "Dom Stampe" Zenica

**Table 11 - Curriculum for Secondary Kindergarten Teacher Training School**

| SUBJECTS   | I         | II        | III       | IV       | TOTAL     | %          |
|--|-----------|-----------|-----------|----------|-----------|------------|
| <b>A. GENERAL EDUCATION SPHERE</b>                                 |           |           |           |          |           |            |
| 1. Bosnian language and literature with orthoepic                  | 3         | 3         | 2         | 2        | 11        |            |
| 2. Foreign language  | 2         | 2         | 2         | 2        | 8         |            |
| 3. History   | 2         | 2         | 2         | -        | 6         |            |
| 4. Philosophy  | -         | -         | -         | 3        | 3         |            |
| 5. Sociology   | -         | -         | 2         | -        | 2         |            |
| 6. Military training   | -         | 2         | 2         | -        | 4         |            |
| 7. Mathematics   | 3         | 3         | -         | -        | 6         |            |
| 8. Physics   | 2         | 2         | -         | -        | 4         |            |
| 9. Chemistry   | 2         | 2         | -         | -        | 4         |            |
| 10. Biology  | 3         | 2         | -         | -        | 5         |            |
| 11. Geography  | 2         | 2         | -         | -        | 4         |            |
| 12. Music  | 2         | 2         | 2         | -        | 6         |            |
| 13. Art  | 2         | 2         | 2         | -        | 6         |            |
| 14. Technical culture  | 1         | -         | -         | -        | 1         |            |
| 15. Informatics  | 2         | -         | -         | -        | 2         |            |
| 16. Physical and health education                                  | 2         | 2         | 2         | 2        | 8         |            |
| <b>TOTAL:</b>  | <b>28</b> | <b>26</b> | <b>16</b> | <b>9</b> | <b>79</b> | <b>68%</b> |
| <b>B. PROFESSIONAL SPHERE</b>                                      |           |           |           |          |           |            |
| 1. Pedagogy with didactics   | -         | 2         | 3         | -        | 5         |            |
| 2. Psychology  | 2         | 2         | -         | -        | 4         |            |
| 3. Psychology of child of preschool age                            | -         | -         | 2         | 2        | 4         |            |
| 4. Scenic expressions and puppet-play                              | -         | -         | 3         | -        | 3         |            |
| 5. Hygiene and first aid   | -         | -         | 1         | -        | 1         |            |
| 6. Bases of pediatrics and child nursing                           | -         | -         | 2         | 2        | 2         |            |
| 7. Media culture   | -         | -         | 1         | -        | 1         |            |
| 8. Teaching method of speech development                           | -         | -         | -         | 3        | 3         |            |
| 9. Teaching method of environment knowledge, mathematical concepts | -         | -         | -         | 3        | 3         |            |
| 10. Teaching methods of music                                      | -         | -         | -         | 3        | 3         |            |
| 11. Teaching methods of fine arts                                  | -         | -         | -         | 3        | 3         |            |
| 12. Teaching methods of physical and health education              | -         | -         | -         | 2        | 2         |            |
| 13. Preschool administration                                       |           |           |           |          |           |            |

|   |  |    |    |    |     |      |
|---|--|----|----|----|-----|------|
| and legislature                               | -  | -  | -  | 1  | 1   |      |
| <b>TOTAL:</b>                                 | 2  | 4  | 12 | 19 | 37  | 32%  |
| <b>A+B:</b>                                   | 30   | 30 | 28 | 28 | 116 | 100% |
| 1. Optional instruction                       | 2  | 2  | 2  | 2  |     |      |
| 2. Course instruction                         | according to special plan                              |    |    |    |     |      |
| 3. Free activities                            | 4  | 4  | 4  | 4  |     |      |
| 4. Educational work with the class            | 1  | 1  | 1  | 1  |     |      |
| 5. Work with parents                          | according to special plan                              |    |    |    |     |      |
| 6. Public and cultural preschool institutions | according to annual programme of preschool institution |    |    |    |     |      |

### PEDAGOGICAL PRACTICE, III YEAR - 5 DAYS X 4 LESSONS

#### TEACHING-METHOD PRACTICE IN IV YEAR:

-teaching method of speech development

3 mentor activities and 3 activities carried out by student,

-teaching method of environment knowledge and mathematical conceptions:

6 mentor activities and 6 activities realized by student

-teaching methods of music, fine art, physical and health education:

3 mentor activities and 2 activities per each unit realized by student

#### INDEPENDENT PRACTICE AT THE END OF IV YEAR

-10 days of independent work in one of educational groups in preschool institution.

Table adapted from approved curriculum issued by the Ministry of Education, Science, Culture and Sports for 1994/95 academic year, Editor: R B&H, Ministry for Education, Science, Culture and Sports, Pedagogical Institute, Printing: DD "Dom Stampe" Zenica

### **Table 12 - Curriculum for Secondary Technical and Other Cognate Schools**

#### NAMES OF THE SCHOOLS AND PROFESSIONS

| The name of the school               | Profession  |
|--------------------------------------|---|
| <b>A. Group of technical schools</b> |   |
| 1. Mechanical technical school       | Mechanical technician<br>Mechanical technician for energetics<br>Mechanical technician for aviation<br>(avionics-technician)<br>Mechanical technician for precision<br>mechanics and optics |
| 2. Electrotechnical school           | Electrotechnician for energetics<br>Electrotechnician for computer technology<br>and automatic<br>Electrotechnician for rolling stock   |

|   |   |
|---|---|
| 3. Mining-geological technical school                                       | Mining technician<br>Geological technician<br>Technician for minerals   |
| 4. Chemical-technological technical school                                  | Chemical technician   |
| 5. Civil engineering technical school                                       | Chemical technician specialized in biotechnology<br>Civil engineering technician<br>Architectural technician  |
| 6. Geodetic technical school  | Geodetic technician   |
| 7. Traffic technical school<br>(departments: road, PTT)                     | Technician for road traffic<br>Technician for internal transport<br>Technician for PTT traffic  |
| 8. Railroad technical school<br>(departments: traffic and electrotechnical) | Engine-driver<br>Technician for technical-vehicular service<br>Technician for railroad traffic<br>Technician for railroad lines   |
| 9. Wood-manufacture technical school  | Technician for primary wood-manufacture<br>Technician for final wood-manufacture  |
| 10. Metallurgic technical school  | Metallurgic technician  |
| 11. Textile technical school  | Textile technician of mechanical orientation<br>Textile technician of chemical-refining orientation<br>Textile technician-garment worker  |
| 12. Leather technical school  | Leather technician<br>Shoemaking-haberdashery technician  |
| 13. Graphic technical school  | Graphic design technician<br>Printing forms specialist<br>Graphic technician for printing<br>Graphic technician of reprophotography and chemiographic<br>Graphic technician for graphic processes |

#### B. Group of biotechnical schools

|                                   |   |
|-----------------------------------|---|
| 14. Agricultural technical school | Agricultural technician of general orientation<br>Agricultural technician of farming orientation<br>Agricultural technician of fruit-growing and wine-growing orientation<br>Agricultural technician of nutritional orientation |
| 15. Forestry technical school     | Forestry technician<br>Technician for horticulture  |

#### C. Group of schools of social-economical orientation

|                     |                     |
|---------------------|---------------------|
| 16. Economic school | Economic technician |
|---------------------|---------------------|



II ACADEMIC SUBJECT IN THE FUNCTION OF PROFESSION

|                                      |              |              |              |              |              |
|--------------------------------------|--------------|--------------|--------------|--------------|--------------|
| 8.Mathematics                        |              |              |              |              |              |
| 9.Physics                            |              |              |              |              |              |
| 10.Chemistry                         |              |              |              |              |              |
| 11.Biology                           | 6-8          | 2            | -            | 8-10         |              |
| 12.Geography                         |              |              |              |              |              |
| <b>TOTAL II:</b>                     | <b>6-8</b>   | <b>2</b>     | <b>-</b>     | <b>8-10</b>  | <b>9-10%</b> |
| <b>TOTAL A:</b>                      | <b>16-18</b> | <b>12</b>    | <b>8</b>     | <b>36-38</b> | <b>39%</b>   |
| <b>B. PROFESSIONAL SUBJECTS</b>      |              |              |              |              |              |
| 13.Professional-theoretical subjects | 8-6          | 12-6         | 16-4         | 36-16        | 39-17%       |
| 14.Practical instruction             | 7            | 7-14         | 7-21         | 21-42        | 22-44%       |
| <b>TOTAL B:</b>                      | <b>15-13</b> | <b>19-20</b> | <b>23-25</b> | <b>57-58</b> | <b>61%</b>   |
| <b>TOTAL A+B:</b>                    | <b>31</b>    | <b>31-32</b> | <b>31-33</b> | <b>93-96</b> | <b>100%</b>  |

C. OPTIONAL INSTRUCTION

|                             |   |   |   |   |
|-----------------------------|---|---|---|---|
| 1.Religious classes         | 2 | 2 | 2 | 6 |
| 2.Office machine technology |   |   |   | 2 |
| 3.Domestic science          |   |   |   | 2 |
| 4.Agriculture               |   |   |   | 2 |

TYPES OF SECONDARY VOCATIONAL SCHOOLS - THE LIST OF PROFESSIONS FOR QUALIFIED WORKERS  
(Three and four year programs)

| School                         | Profession<br>3 years         | 4 years        |
|--------------------------------|-------------------------------|----------------|
| 1.MECHANICAL VOCATIONAL SCHOOL | 1.Lathe operator              | 1.Automechanic |
|                                | 2.Milling machine operator    |                |
|                                | 3.Planer operator             |                |
|                                | 4.Toolmaker                   |                |
|                                | 5.Blacksmith                  |                |
|                                | 6.Tin-smith                   |                |
|                                | 7.Car-body mechanic           |                |
|                                | 8.Fitter for central-heating  |                |
|                                | 9.Locksmith                   |                |
|                                | 10.Machinist (engine fitter)  |                |
|                                | 11.Precision mechanic         |                |
|                                | 12.Automechanic               |                |
|                                | 13.Welder                     |                |
|                                | 14.Mechanic for rolling stock |                |
|                                | 15.Gas fitter and plumber     |                |

16. Watchmaker
17. Goldsmith-jeweller
18. Copper-smith
19. Gun-smith

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## 2. ELECTROTECHNICAL VOCATIONAL

### SCHOOL

1. Electric power station worker
  2. Electrician
  3. Electromechanic
  4. Electronician mechanic
  5. Electronician for telecommunicatons
  6. Mechanic for computer technology and automatic signals
  7. Electro-technician for signal-safety equipment
  8. Electro-technician for rolling stock and equipment
1. RTV-mechanic

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## 3. WOOD MANUFACTURE VOCATIONAL

### SCHOOL

1. Producer of timber
2. Producer of veneer and boards
3. Technician for wood shaping
4. Carpenter
5. Wood polisher
6. Model-carpenter
7. Upholsterer
8. Wood craftsman
9. Cooper
10. Wagonmaker
11. Basket-weaver
12. Wood-carver

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## 4. FORESTRY VOCATIONAL

### SCHOOL

1. Forester
2. Manager of mechanization in forestry

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## 5. AGRICULTURAL AND VETERINARY

### VOCATIONAL SCHOOL

1. Plowman-truck farmer
2. Fruit grower-winegrower
3. Flower grower
4. Cattle breeder
5. Fish and shellfish grower
6. Veterinary nurse
7. Manufacturer of corn, flour and suger
8. Manufacturer of industrial plants
9. Manufacturer of fruit and vegetable
10. Manufacturer of meat and milk

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## 6. TRADE VOCATIONAL

|  |   |
|--|---|
| SCHOOL                                     | 1.Salesman  |
| 7.HOTEL-TOURIST VOCATIONAL SCHOOL          | 1.Waiter<br>2.Cook<br>3.Pastry maker  |
| 8.CHEMICAL-TECHNOLOGICAL VOCATIONAL SCHOOL | 1.Person in charge of application of protective coatings<br>2.Chemical laboratory technician<br>3.Operator of chemical-technological process<br>4.Producer of rubber and plastic<br>5.Producer of cellulose and paper<br>6.Chemist-operator for explosive material<br>7.Person in charge of glass processing ?<br>8.Producer of ceramics and brick products |
| 9.METALLURGY VOCATIONAL SCHOOL             | 1.Smelter<br>2.Molder   |
| 10.LEATHER VOCATIONAL SCHOOL               | 1.Tanner<br>2.Furrier<br>3.Shoemaker<br>4. Leather clothes manufacture<br>5.Producer of leather goods   |
| 11.TEXTILE VOCATIONAL SCHOOL               | 1.Spinner<br>2.Weaver<br>3.Knitter<br>4.Textile finishing<br>5. Pattern maker   |
| 12.MINING-GEOLOGICAL VOCATIONAL SCHOOL     | 1.Miner for underground exploitation<br>2.Operator of shaft mechanization<br>3.Operator of mine mechanization of surface excavation<br>4.Person in charge og refining of minerals<br>5.Geological drill operator<br>6.Mechanic for mining machinery   |
| 13.CIVIL ENGINEERING VOCATIONAL SCHOOL     | 1.Mason-worker on facade and insulation<br>2.Carpenter-floorer<br>3.Builder of metal frameworks-concrete worker<br>4.Stonecutter<br>5.Ceramics worker<br>6.House painter  |

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14. TRAFFIC VOCATIONAL  
SCHOOL

1. Operator of construction and reloading machinery
2. Driver of motor-vehicles
3. Auto-polisher
4. Autoelectrician

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15. RAILROAD VOCATIONAL  
SCHOOL

1. Engine driver
2. Railroad transportation worker
3. Operator of machinery for railroad tracks and crane operator

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16. VOCATIONAL SCHOOL FOR  
OTHER SERVICES

1. Cosmetician
2. Hairdresser
3. Podiatrist-manicurist
4. Photographer
5. Chimney sweep
6. Dry cleaning worker
7. Bookbinder

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