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Palestinian Higher Education Financing Strategy

Prepared by the

Ministry of Higher Education and Scientific Research

Palestinian National Authority

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Preface

The Palestinian Higher Education Financing Strategy was prepared by the Palestinian Ministry of Higher Education and Scientific Research (MOHER) with financial and technical support provided by the World Bank. World Bank support was requested by the Ministry of Finance in February 1999 in response to a request by MOHER to help the Palestinian Authority define a suitable financing strategy that would meet the challenges and needs of the higher education sector in Palestine and would fit with the overall higher education strategy paper that aims at achieving a sustainable higher education system.

The purpose of this paper is to build stakeholders consensus on the rationale and mechanism for financing reform and to provide the analytical underpinning to donors who may wish to provide financial support for the strategy implementation.

The preparation of the strategy underwent a highly participatory process of collaboration between the governmental authorities (the government) and the World Bank team. As security situation worsened in West Bank and Gaza (WBG), the government team relentlessly continued with the work by making use of the opportunities abroad to meet with the World Bank team outside of WBG. The World Bank team had a series of working sessions with the government team in London, Memphis, Paris, Amman, and Peoria.

The government team consisted of Dr. Munther Salah; the former Minister of Higher Education, and Mr. Hisham Kuhail; Deputy Minister.

The World Bank team was led by Mae Chu Chang, Lead General Educator for the Middle East and North Africa of the World Bank*.* Consultants Sue Berryman and Art Hauptmann provided sustained technical assistance from the beginning, and Tony Morgan prepared background papers. Claude Tibi was responsible for the Budget Trade-Off Model and provided training to the government team to use the simulation model for continued refinement of the student loan scheme. Salam Kanaan, Education and Health Operations Analyst from the World Bank Office in WBG, provided liaison and coordination with the Ministry staff amidst an extremely difficult security condition. The paper underwent a formal review process at the World Bank under the supervision of Regina Bendokat, Sector Manager, and Jacques Baudouy, Director of the Human Development Group. World Bank peer reviewers included Benoit Millot, Lead Education Specialist, Joseph Bredie, Senior Education Specialist and Francis Steier, Senior Education Economist. The review panel endorsed the paper as a "compelling financing strategy for Palestinian Higher Education" that could serve as a model for the region.

Abbreviations and Acronyms

BTOM	Budget Tradeoff Model
COHE	Council of Higher Education
CSR	Council for Scientific Research
EU	European Union
GAAP	Generally Acceptable Accounting Principles
GDP	Gross Domestic Product
GNI	Gross National Income
HCST	Higher Council for Science and Technology
HE	Higher Education
HEMIS	Higher Education Management Information System
HRD	Human Resources Development
IDB	Islamic Development Bank
MIS	Management Information System
MOHER	Ministry of Higher Education and Scientific Research
MOF	Ministry of Finance
NGO	Non Governmental Organization
NC	Normative Costs
PCBS	Palestinian Central Bureau of Statistics
PLC	Palestinian Legislative Council
PLO	Palestinian Liberation Organization
PMA	Palestinian Monetary Authority
PNA	Palestinian National Authority
QIF	Quality Improvement Fund
RF	Research Fund
ROR	Rates of Return
SASR	Student Administrative Staff Ratio
SLS	Student Loan Scheme
SS	Standard Scenario
SRLF	Student Revolving Loan Fund
STR	Student Teacher Ratio
TVETS	Technical and Vocational and Training Strategy
UNESCO	United Nations Educational, Scientific, and Cultural Organization
UNRWA	United Nations Relief and Works Agency for Palestine Refugees in the Near East

Executive Summary

Higher education (HE) has developed very quickly in Palestine over the last three decades and faces expansion problems induced by pressing demand from a quickly increasing number of high school graduates, efficiency and quality issues related to its very development, and financing problems resulting from the aftermath of the Gulf War in 1990, with the cut-off of Arab financial support to the Palestinian Liberation Organization (PLO), which negatively affected the financing of Palestinian colleges and universities. The outbreak of the second Intifada in September 2000 further aggravated the situation because of the imposition of tight closure by Israel. In a context of severe fiscal constraints, Palestinian National Authorization's (PNA) contribution towards higher education has declined substantially, raising further concerns about the financial sustainability of the sub-sector.

In response to the challenges facing the Palestinian HE sub-sector, the Palestinian Ministry of Higher Education and Scientific Research has developed an overall higher education strategy[1] and is now proposing a more specific financing strategy for the sector as a whole. The main purpose of the strategy is to create a more effective, accessible, efficient, sustainable and accountable higher education system.

In developing the strategy, a fundamental reality was acknowledged, namely, that the level of public financial support for Palestinian higher education is not currently, nor likely to be in the foreseeable future, sufficient to ensure the financial sustainability of the system as it currently exists. Therefore, major reforms are being proposed so that public funds are targeted in ways to improve what will remain a largely public not-for-profit higher education system.

To achieve this purpose, the financing strategy is based on the following principles:
- Targeting public funds to national and regional human resource development needs by focusing on programs identified as having high priority;
- Enhancing students' ability to pay for higher education over sustaining institutions as a primary means of public support;
- Promoting quality through competitive funding of selected projects by PNA;
- Promoting HE institutions investments for expanding capacity and improving quality, especially in priority fields, through partial funding of selected projects on a competitive basis and identification of potential donors;
- Promoting research through competitive funding of selected projects by PNA;
- Combining the autonomy of public non-profit Palestinian universities with greater accountability by emphasizing incentives more than regulations; and
- Improving the management of the institutions and higher education sector.

Those principles mean that the global philosophy of the strategy is incentive-based rather than regulatory.

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[1] *Proposed Direction for Palestinian Higher Education: A Vision for the Future (October 1999)*

The Council of Higher Education (COHE) and the relevant ministries and stakeholders will be responsible for establishing high priority Human Resources Develpment (HRD) needs. They will elaborate a long term human resources development strategy, and will identify short and medium term priority needs using information on graduate employment and recent trends on labor markets. Priorities will be adjusted at intervals on the basis of new evidence on labor markets.

In priority fields of study, fees will be subsidized through vouchers funded by the PNA, granted to all students fulfilling specific income and achievement criteria, and cashed by the institution they select. Fees and vouchers will be set in relation to normative economic costs including recurrent and annualized capital costs. All students will be entitled to apply for a loan to help them finance their fee. Loan beneficiaries will be selected on the basis of achievement and income. A limited rate of interest covering administrative and insurance for repayment costs will be charged. Repayment will start only after graduates get a job and the repayment period will be such that no graduate will be charged more than 10 percent of his/her income. The student loan scheme, which might grant new loans in the order of US$4 to 5 million in 2005/06 and US$7 to 8 million in 2010/11, should be funded through grants and soft loans, and the PNA will contribute to it to a limited extent.

The PNA will promote quality improvement and capacity expansion, especially in priority fields, by partially funding competitive institution projects responding to specific criteria. The PNA will also promote research in key areas related to national development by partially funding competitive research projects responding to specific criteria.

In order to strengthen institutional management, MOHER will develop a plan including the establishment of a HE management information system, incentives to attract qualified staff, as well as in-service training of existing staff.

A Budget Tradeoff Model has been designed to assess the consequences of alternative options concerning admissions, staff, premises and equipment needs, priority areas, fees and vouchers levels, and student loans characteristics, on:
- PNA total contribution and its distribution by main component; and
- HE institutions' financial balance.

Various scenarios have been built to test the sensitivity of PNA's contribution and HE institutions financial balance to changes in the main parameters. A 'Base Scenario' showing what might be the main policy options and corresponding financing structure of HE in Palestine in 2005/06 and 2010/11 has been identified and is proposed for policy dialogue.

The following conclusions may be drawn from the various scenarios:
- Under present admission criteria, total enrollments are bound to increase very quickly. This raises the issue of whether and how MOHER should control admissions in order to take into account tradeoffs between quantitative expansion and reform;
- Specific studies should be undertaken to understand staff recruitment and utilization practices, and identify measures to improve quality while raising efficiency;

- MOHER should be very careful in deciding priority fields and setting vouchers levels, since those decisions have a strong influence on the total value of vouchers and the corresponding MOHER contribution.;

- Vouchers would not represent much more than 6 to 8 percent of students' resources for funding fees. Vouchers will not be a very significant resource for the students considered as a whole. They will, however, be a significant source for those enrolling in priority fields and this incentive needs to be carefully assessed, lest MOHER face a strong increase of demand for these fields;

- Vouchers fund a share of an institutions recurrent expenses, varying between 4 and 8 percent for most institutions and in most scenarios. They are not, therefore, a significant mechanism for financing institutions recurrent expenses. They will, however, become a strong incentive for institutions to develop innovative programs and attract students;

- The financial sustainability of HE institutions is mainly dependent on the level of fees in relation to normative costs. Fee setting is, therefore, a crucial policy issue and should be controlled by MOHER. Normative costs will be a key tool for MOHER in this regard;

- Fee setting has significant implications on students' financing and HE overall funding. Increased fees mean increased personal contributions from students, which should be funded partly through loans. Depending on assumptions concerning loan conditions, annual repayments would represent a share of new loans that may vary between 25 and 35 percent in 2010/11. The institutions financing the loan scheme must, therefore, be prepared to inject annually substantial amounts of additional funds, which will be repaid only in the medium/long range. Furthermore, the management of a large student loan scheme is complex, and controlling the default rate may prove difficult. The tradeoff between promoting students ability to pay through increased contribution to the loan scheme and reducing fee levels in priority fields through increased vouchers must be carefully assessed by MOHER;

- In 2010/11, loans would fund 5 to 6 percent of students' expenses for fees, depending on the assumptions. Loans will not play a major role in funding students' fees in general, but they will be a significant resource for those students benefiting from a loan;

- In the 'Base Scenario', MOHER financial deficit would total US$4.7 and 9.0 in 2005/06 and 2010/11, respectively. All HE institutions would have a recurrent surplus and a capital deficit, which should be funded through grants and loans. Vouchers and loans would fund 7.3 and 6.0 percent, respectively, of students' fees in 2010/11. Additional funds to inject in the student loan scheme would amount to approximately US$53 million in 2010/11, while repayments would cover 35 percent of new loans if the repayment period is of 5 years on average.

Those conclusions suggest the following lines of action:

- Review present admission criteria and determine whether the admission policy should be reconsidered in the future;
- Carefully assess staff recruitment and utilization practices and select the most cost-effective options for improving efficiency while preserving quality;
- Develop an advanced Higher Education Management Information System (HEMIS), based on modern management techniques. This HEMIS could also take into account the information needs suggested by the model;
- Set up a comprehensive training program for high and middle level staff in MOHER and institutions. This program could include training in the use of the model at the sub-sector and institutional level;
- Identify sources for funding institutions quality improvement and capital needs, the loan scheme and the various actions aiming at strengthening the capacity of MOHER and HE institutions;
- Consider increasing PNA's contribution towards HE when the fiscal situation has improved.

A series of administrative and regulatory measures are needed to support and implement the policies outlined above. They include:

- Improving licensing and accreditation: (a) MOHER will establish an autonomous Commission for Accreditation and Licensing; (b) MOHER, in coordination with COHE, will develop an effective quality assurance mechanism and a continuous evaluation process; (c) COHE will set up evaluation teams to review and evaluate all existing programs at HE institutions. Following the evaluation, MOHER should make the necessary modifications and adopt its accreditation system; (d) Funding of HE institutions will be limited to accredited programs that meet national high priority needs.
- Strengthening the HE Management Structure. In consultation with HE institutions, MOHER will develop a plan to improve institutional management. The plan will include the development of an HEMIS and staff training in areas such as database, planning, financial management, assessment, and self-evaluation. In coordination with HE institutions, MOHER will also develop a plan to provide incentives to attract qualified staff and expertise and recruit mid-level staff to the MOHER.

MOHER will take into account that the pace of implementing this strategy might need a transitional period to shift from the traditional financing mechanism. However, it is important that a series of concrete steps be taken in 2002 to demonstrate the viability of the strategy. Six steps are required to accomplish such a demonstration:

- Determine the high priority HRD needs. COHE needs to conduct its first meeting for the purpose of discussing and determining high priority needs. This step will constitute the cornerstone in the process of implementing the strategy, since it will not only identify the areas of funding, but will also rank them in terms of priority;
- Introduce the proposed administrative measures. This includes setting-up an autonomous commission for accreditation and licensing, constitution of the HEMIS

task force, and designing and introducing institutional management plans in coordination with HE institutions;

- Elaborate the HE Funds design, and implementation plan. One of the most recent accomplishments of MOHER has been the launching of a Student Revolving Loan Fund (SRLF), and laying the design for HE Development Fund. This was initiated in 2001;
- Generate consensus among decision makers and stakeholders. MOHER should organize a series of workshops for the purpose of decision maker and stakeholder buy-in into the financing strategy;
- Train institutional staff in the use of the Budget Tradeoff Model (BTOM). The model may be easily adapted to the institution level and could be used as a tool for helping decision making at this level. This could also be a step towards building the HEMIS and developing institutional plans;
- Carry out the studies suggested in this paper.

Since the reform of higher education implied by the strategy will have significant consequences on HE internal and external efficiency, quality, financial sustainability and equity, it is urgent to start implementing it as soon as possible. In the present context of financial strains, however, implementing the strategy requires external resources which should be earmarked to components vital for its success, such as:

- Strengthening the capacity of MOHER and HE institutions. This component might include the establishment of the HEMIS, training of MOHER and institutions high level staff, and elaborating the long term human resources development strategy which will guide in the identification of priority fields (US$3.0 million);
- Supporting and expanding the student loan scheme (US$8 million);
- Establishing the Quality improvement fund and contributing to its funding for targeted interventions (US$5 million); and
- Supporting the development of a few selected high priority fields of study, as identified by COHE through the long term human resources development strategy (US$14 million).

Introduction

For the Ministry of Higher Education and Scientific Research, this financing strategy comes as an integral part of a broader higher education strategy[2] that considers education (including higher education) a social investment that is capable of achieving the goals and aspiration of society as well as being a vehicle that transforms society towards the overall development goal. The broader higher education strategy recognizes the fact that higher education constitutes a system and not an aggregate of institutions, where diversity is encouraged but is guided and bound by the system espousing it.

The overall HE strategy deals with a wide variety of issues such as future needs, quality assurance, science and technology, technical and vocational education, sector financing and management. It touches on all these issues with a visionary approach to (a) help create an integrated Palestinian identity and society; (b) inject new social values that assist society in entering the twenty-first century as a modern but distinctly Arab-Palestinian society; (c) transform Palestinian society from being consumer and dependent oriented to being productive and independent; and (d) integrate the Palestinian society into the regional and international economy in a competitive basis by providing the proper environment through which Palestinians can contribute effectively to the well being and stability of this region.

The Technical and Vocational Education and Training Strategy (TVETS) aims at meeting the labor market needs for qualified human resources in all vocational and technical fields. The TVETS was designed to introduce a Palestinian TVET system that is effective, efficient, flexible and relevant to the labor market needs, accessible to all target groups, equitable, self-sustainable, and capable of meeting its general obligations towards the Palestinian community. To achieve those goals, the TVET system aims at: (a) providing the community with the skilled labor force capable of participating in the development and maintenance of the infrastructure

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[2] *Proposed Direction for Palestinian Higher Education: A Vision for the Future (October 1999)*
Rationalization Plan for the Higher Education Sector 1997-2001 (May 1997)

as well as in the agriculture, industry, and service sectors; (b) keeping up with modern scientific and technological progress, monitoring its effect on the various economic sectors and coping with its impact on the labor market; (c) confronting the changes in the labor market that arise from economic progress and technological change, through special training courses and continuing education programs that increase an individual's opportunities to attain permanent jobs; and (d) increasing the productivity of the labor force, hence participating in the increase of the national income, and in encouraging investment in the country.

The financing strategy for Palestinian higher education is, therefore, a challenge that the MOHER sees as key to its mission and policy agenda of reforming Palestinian higher education, especially under the current circumstances. This paper and its annexes draw on the language and the concepts of the two strategies mentioned earlier and take the next logical step relative to them.

Despite great obstacles over its relatively short, three-decade history, Palestinian higher education has served the Palestinian people well in meeting the rising demand of younger generations for tertiary education. The current consensus, however, is that demographic, governance, and fiscal pressures, coupled with inadequately defined priorities are undermining the system. Recognizing the urgent need to achieve a more effective, accessible, efficient, sustainable and accountable higher education system, MOHER is embarking on designing a financing reform to achieve these objectives while maintaining the largely non-profit nature of the sector.

Developing a financing strategy requires many things: an accurate assessment of the present system; a vision shared by the Palestinian National Authority (PNA), the Legislative Council (PLC), MOHER, the Council of Higher Education (COHE) and the private sector; the establishment of principles that will govern reform; the definition of roles, responsibilities and mandates; and agreement on the policies required to achieve the specific goals of the strategy.

This paper, therefore, seeks to stimulate and facilitate discussions among Palestinians of how the PNA/MOHER might restructure the financing of Palestinian HE to enhance the quality, relevance, equity, and sustainability of the existing system. It offers a roadmap for financial strategic planning for HE. However, it should be stressed that this strategy paper comes as part of the broader governmental effort to keep within budget constraints and use available funding wisely across the sector. It is not the aim of this strategy to cover university deficits, but to rationalize public funding in ways that will improve the quality, relevance and equity of HE.

To achieve these purposes, this paper is divided into four sections:

1) An assessment of the challenges facing Palestinian higher education that must be addressed, and the consequences of not confronting those challenges.

2) The development of an incentive-based strategy that takes a position on the three key financing issues for higher education that have to be resolved in any country: the public

funding of institutions, the level of tuition fees, and the provision of student financial aid. In addition, the financing strategy described in this paper contemplates what changes are needed to ensure a better-managed HE system, including the development of an effective quality assurance system.

3) The development of a Budget Tradeoff Model and scenarios to assess various policy scenarios.

4) The identification of future steps towards implementing the Financing Strategy.

Preamble

The Palestinian higher education system went through a major transformation after the June 1967 war. Two-year community colleges were started followed by the establishment of the major Palestinian universities in 1971 (see table I.1, Appendix I). The HE sub-system now includes 11 universities, 5 university colleges and 20 community colleges. Two universities (Al Quds Open University and Al Aqsa) and five community colleges are PNA controlled institutions, while all other universities and community colleges are public, non-profit institutions, with the exception of the Arab-American University, established in 1999, which is fully private.

HE has developed very quickly in Palestine over the last three decades and faces expansion problems induced by pressing demand from a quickly increasing number of high school graduates, efficiency and quality issues related to its very development, and financing problems resulting from the aftermath of the Gulf War in 1990, with the cut-off of Arab financial support to the Palestinian Liberation Organization (PLO), which negatively affected the financing of Palestinian colleges and universities.

Over time Palestinian universities have depended on changing proportions of three main sources of revenue: external contributions, tuition fees, and other miscellaneous sources. During the seventies and through the late eighties, soliciting financing for the establishment of universities from external sources was not a significant obstacle. About three-fourths of the total financing of Palestinian universities came from the PLO. Most of the resources needed for construction purposes were donated by expatriate Palestinians and charitable organizations. The influx of aid from PLO and philanthropic organizations contributed significantly to recurrent expenses. This tradition of fairly readily available external financing encouraged Palestinian universities to expand and let them charge relatively low tuition fees that amounted to no more than 10 percent of the total education cost per student. However, this pattern of external funding and low tuition fees shifted dramatically in the 1990s when contributions by the Gulf States to the PLO ceased.

In the early 1990s, tuition fees as a share of total university income increased from less than 10 percent to 30 percent. In the middle of the decade, the European Union (EU) provided operational support for Palestinian universities to ease the fiscal pressures arising from tuition waivers during the Intifada (1987-1992) and declining PLO support. EU support was provided on the basis of an agreement with the PLO that this support would gradually diminish over a five-year period. During this period institutions were expected to locate local sources of funds. This goal could not be reached due to the unstable political situation.

In 1998, EU support was phased out and the PNA started to partly fund universities and community colleges. However, the PNA's limited contribution to higher education stayed more or less constant from 1996 to 1998, and dropped significantly in 1999 and the years after (see table 3). As a result, tuition fees continued to increase, reaching by the end of the decade more than two-thirds of costs per student and more than one-third of GDP per capita. Tuition fees are the biggest source of revenue and now constitute more than half (55 percent) of all spending by Palestinian universities.

Palestinian HE institutions suffer from a serious shortage of funds to support their educational programs. They must seek stopgap funding to meet even the most basic of expenses. Most Palestinian universities run chronic deficits that average more than 10 percent of their total budgets. Almost all Palestinian universities have been forced to use their Staff Provident Funds (pensions) to cover their financial deficits. The prospects for improved and stable financing for most Palestinian HE institutions are clouded by a lack of reliable and sustained public funding and no strategy for addressing these financial problems.

The outbreak of the second Intifada in September 2000 created new economic problems and further aggravated the situation of HE. The solid economic recovery that began in 1998 came to an abrupt halt with the start of the Intifada, and the subsequent imposition of tight closure by Israel. Per capita real income declined by 12 percent for 2000 as a whole, and will likely decline a further 19 percent in 2001. The share of the population living below the poverty line (of US$2 per person per day) has reached almost a half of the Palestinian population, up from a quarter before the Intifada. Far more significant, though, are Gross National Income (GNI) losses, which could total US$2.4 billion by the end of 2000.

Palestinian economic decline has been driven by unemployment. During the last quarter of 2000, some 100,000 Palestinians lost their jobs in Israel and the settlements, while another 66,000 were put out of work inside the Palestinian territories as demand collapsed and businesses were forced to lay off workers. Unemployment climbed from 9 percent to 28 percent of the Palestinian workforce in December 2000.

Tax revenues have dwindled to a quarter of previous levels. Total revenues withheld by Israel are estimated today at close to US$260 million. Inevitably, the fabric of public institutions is badly frayed under this type of fiscal pressure. A full collapse of the economy and government has, however, been averted. Critical in this respect have been contributions to the budget from Arab donors and the EU, currently at US$45 million and US$9 million,

respectively. These funds have prevented fiscal collapse and have helped sustain a minimum level of demand and prevent the disintegration of government structures.

Central government expenditure was reduced from a monthly average of US$107 million during the third quarter of 2000 to an average of US$91 million during the second quarter of 2001. This reduction in expenditures fell almost entirely on the non-salary operating cost component of the budget; indeed, the monthly salary bill has increased from around US$53 million prior to the Intifada to US$57 million by the middle of 2001, while the number of civil servants on the payroll, mostly school teachers, rose by approximately 5,000. Most of the remaining non-wage expenditures were dedicated to emergency expenditures (averaging US$19 million per month over the period October 2000 – June 2001), leaving very little for traditional (non-emergency) non-wage expenditures, which declined by two-thirds between the second quarters of 2000 and 2001, from an average of $US54 million to US$18 million per month.

In this context of very severe fiscal constraints, PNA's contribution towards higher education has declined substantially, raising further concerns about the financial sustainability of the sub-sector.

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Palestinian Higher Education: Main Challenges

Despite a demonstrated capacity to survive and even grow in adverse and unstable conditions over the past three decades, Palestinian HE today faces a number of daunting challenges that can be summarized as follows: uncontrolled growth and unplanned expansion, questionable social relevance and academic quality, unreliable financing, and ineffective governance as the size and scope of the sector outgrew traditional operational modes and established organizational structures. These challenges are elaborated below.

1.1: Meeting increasing demand

Palestinian HE occupies a somewhat unique position in the constellation of international HE. As table 1 shows, by 1999, 2 percent of all Palestinians - 1 in 50 - were enrolled in HE. The gross enrollment rate (total enrollments divided by the 18-24 age group) was close to 17 percent. In 1995, the year for which comparative data exists, slightly over one percent of the total population was enrolled in HE, and the gross enrollment rate was slightly over 10 percent. Palestinians had a higher percent of the total population enrolled than the average for developing countries and for the Arab states. They had a higher gross enrollment rate for 18 to 24 year olds than the average for developing nations, but slightly lower than average for the Arab states (See table II.1, Appendix II).

Table 1. Higher Education Enrollments 1995-1999

	1995/96	1996/97	1997/98	1998/99	1999/00
Total population	2483.2	2630.8	2783.1	2897.5	3084.9
Ages 18 to 24 years old	319.6	338.6	385.2	371.2	401.0
University enrollments	29.5	36.9	45.4	52.4	61.8
College enrollments	3.2	3.6	4.2	4.3	5.4
Total higher education enrollments	32.7	40.5	49.6	56.7	67.2
As % of total population	1.3	1.5	1.8	2.0	2.2
As % of 18-24 years old	10.2	12.0	12.9	15.3	16.8

Source: Palestinian Central Bureau of Statistics (PCBS)
Ministry of Higher Education and Scientific Research (MOHER)

Pressure came from a quickly increasing number of high school graduates, induced by the impact of high demographic growth on enrollments in a quasi-generalized secondary education (see table 2), and with a strong bias toward humanities in the proportion of Tawjihi holders. Admissions into universities increased by 31 percent in 3 years, from 1997/98 to 2000/01, while enrollments increased even more (50 percent), because of the establishment of new fields of study and time lag between admission and graduation.

Table 2: High School Graduates by Field of Study in HS

	High School Graduates			
	Humanities	**Science**	**Others**	**Total**
1999/00	21547	9463	1395	32405
2000/01	23594	9880	1525	34999
2001/02	26298	10369	1744	38411
2002/03	30719	12112	1781	44612
2003/04	32716	12917	1900	47533
2004/05	35210	13883	2042	51135
2005/06	41038	16181	2380	59599

Source: Palestinian Central Bureau of Statistics (PCBS); Ministry of Higher Education and Scientific Research (MOHER)
Note: projected data from 2001/02

Criteria for admission into HE are based on achievement at the Tawjihi (end secondary exam). A minimum score of 65 is required by all HE institutions to apply in all fields of study, except Medicine (minimum 85) and Engineering (minimum 80). Students compete for existing seats on the basis of their achievement. Lower scores are accepted for admission into Al Quds Open University and Community Colleges.

In 2000/01, admissions into all universities and community colleges amounted to nearly 67 percent of high school graduates of the previous year, backlog included[3], but Al Quds Open

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[3] The backlog is composed of Tawjihi holders not accepted in HE during the 2/3 preceding years

University alone admitted over 27 percent of HS graduates, or 41 percent of all students going into HE.

Since 1992, the number of students enrolled in the universities has more than tripled, while community college enrollments, although beginning to increase are still less than they were in 1992, adding further pressure on universities.

1.2 Achieving financial sustainability

Public spending on higher education as a percentage of GDP (0.3 percent), the PNA total budget (1.9 percent) and the PNA budget allocated for education (8 percent) are very low by international standards (see tables 3 and II.2, Appendix II). Public spending per student as a percentage of GNP per capita (44.1) is also low by international standards, while tuition fees as a percentage of university recurrent costs and as a share of their total revenues – 68 percent and 86 percent respectively, in 1999– are very high.

Table 3: Higher Education Expenditure and Resources (1995-1999)

	1995	1996	1997	1998	1999
University recurrent budgets (US$ million)	N.A	47.5	51.5	56	53
Community college recurrent budgets (US$ million)	N.A	2.4	4.5	5.7	5.4
Total recurrent budgets (US$ million)	N.A	49.9	56	61.7	58.4
University capital expenditures (US$ million)	N.A	9.0	8.0	10.0	10.0
Community college capital expenditures (US$ million)	N.A	3.6	1.6	1.9	3.3
Total capital expenditures (US$ million)	N.A	12.6	9.6	11.9	13.3
Total higher education spending (US$ million)	N.A	62.5	65.6	73.6	71.7
University revenues (US$ millions)	N.A	23.5	28.4	36.0	42.0
Community college revenues (US$ millions)	N.A	1.5	1.7	2.1	3.1
Total revenues (US$ million)	N.A	25.0	30.1	38.1	45.1
University tuition fees (US$ millions)	N.A	19.2	21.6	32.0	36.0
As % of recurrent expenditures	N.A	40	42	57	68
As % of university revenues	N.A	82	76	89	86
Average tuition fees per student (US$)	N.A	520	476	610	582
As % of GDP per capita	N.A	35	32	40	37
PNA funding of higher education (US$ millions)	N.A	13.7	12.5	14.7	10.4
As % of PNA total budget	N.A	1.7	1.5	1.9	1.1
As % of PNA education spending	N.A	8.6	7.7	8.0	5.9
As % of total higher education spending	N.A	22.0	19.0	20.0	14.5

Source: Ministry of Higher Education and Scientific Research (MOHER), Ministry of Finance (MOF), and the Palestinian Monetary Authority (PMA)

Universities responded to financial constraints in various ways:

(a) They increased cost recovery, with tuition fees reaching 68 percent of per student recurrent costs and more than one-third of GDP per capita by the end of the 1990s (see table 3);

(b) They opened new programs to compete for students and enlarge their resource base, while students became more selective of their fields of study, with their choice being influenced first by the local labor market opportunities and second fees to be paid. In this competition, universities tended often to offer the same programs, running the risk of ending up with extra capacity and low external efficiency;

(c) They tried also to control their expenditure: since 1996, recurrent spending per student has declined by 33.4 percent in universities. In colleges, they started declining in 1998 only, but fell then by one fourth in one year (see table 4). At the same time, enrollments have more than doubled; and

(d) They stabilized capital expenditure since 1996, in spite of quick enrollments expansion, , while expenditures declined in colleges. Development projects were postponed because of the need to fund recurrent expenditure.

Table 4: Per Student Recurrent Expenditure in Universities and Community Colleges

	1995	1996	1997	1998	1999
University recurrent spending/student (US$)	N.A	1287	1134	1068	857
Community college recurrent spending/student (US$)	N.A	667	1071	1326	993

Source: Ministry of Higher Education and Scientific Research (MOHER), Ministry of Finance (MOF), and the Palestinian Monetary Authority (PMA)

The options adopted by universities to control their expenditure in a context of fast increasing enrollments due to pressing demand and competition for students may be analyzed as reducing per student expenditure without trying to improve efficiency and preserve quality:

Changes in per student recurrent expenditure over the 1997/98 – 2000/01 period may be explained by the following factors:

(a) Overall decline of student teacher ratios. (STRs)

When compared with international averages, STRs at Palestinian universities were high in 1995 (see table II.3, Appendix II). During the 1997/98 – 2000/01 period, STRs declined slightly, especially in public non-profit universities[4], but are still above average by international standards (see table 5). Over the period, STRs decreased in 5 fields (Commerce & Economics; Law; Information Technology; Medicine; and Medical Professions), and increased in only two fields (Social Sciences and Engineering). But no systematic attempt has apparently

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[4] In 2000/01, public non profit universities and Al Quds open university represented respectively 58.8 and 34.5 percent of enrollments in universities, and 54.7 and 32.1 percent of enrollments in HE as a whole

been made to use teachers more intensively, since STRs declined in 2 fields where they were high (Commerce and Economics, and Law), but equally in 2 fields where they were rather low (Information Technology and Medicine).

The high variance in student teacher ratios across fields of study (in 2000/01, STRs varied from less than 9:1 to over 45:1) reveals both over and under utilization of teaching staff. STRs should probably be lowered in some fields of study in some universities and increased in others. However, the reasons for these variations need to be better understood in order to assess their implications for educational quality and efficiency. The assessment of the teaching staff should also include its distribution by level (full professor, associate professor, assistant professor, etc.).

Table 5: STUDENT/TEACHER RATIO: PNP UNIVERSITIES

	1997/98	1998/99	1999/00	2000/01
Education	45,5	43,3	40,2	45,7
Humanities	17,6	17,1	16,9	17,6
Social Sciences	17,4	25,4	23,4	21,4
Commerce & Economics	48,8	46,7	41,9	43,0
Law	85,8	53,7	48,4	46,9
Information Technology	10,7	10,3	9,5	8,9
Engineering	17,4	18,9	18,8	20,4
Medicine	12,0	11,4	12,6	10,6
Medical Professions	25,1	24,9	19,6	19,0
Science	13,3	14,2	13,2	13,6
Total	23,7	23,1	21,3	21,9

No trends are available for Al Quds Open University and the Arab-American University, which have been opened recently. In 2000/01, Al Quds Open University showed high ratios related to its very nature, and further economies of scale should be achieved in the future. STRs in the Arab-American University are not significant for the time being.

In PNA colleges, STRs have also declined to some extent over the period 1997/98 – 2000/01and show the same pattern as in universities (see table 6): STRs are low in fields such as Engineering, and much higher in other fields such as Commerce and Economics, indicating that teachers are under-utilized in some colleges while they are most probably over-utilized in others. As for universities, the implications of these variations for quality and efficiency need to be evaluated.

Table 6: Student/Teacher Ratio: PNA Colleges

	1997/98	1998/99	1999/00	2000/01
Education	19,2	16,2	17,5	20,7
Humanities	15,2	18,1	19,6	15,6
Commerce & Economics	53,4	46,6	41,0	31,9
Information Technology	19,7	23,6	16,4	13,7
Engineering	6,3	12,2	9,9	9,9
Medical Professions	7,7	14,4	15,8	14,9
Total	21,1	23,9	20,5	18,4

(b) Overall decline of student to administrative staff ratios

Although their average level is rather low, student:administrative staff ratios (SASRs) in PNP universities have declined on average over the 1997/98 – 2000/01 period (see table 7). SASRs declined in 7 fields, and increased in only 3 (Engineering, Social Sciences and Humanities). Surprisingly, they declined in 4 fields where their average level was already low (Education; Information Technology; Medicine and Science), leading to the preliminary conclusion that institutions were not aiming at rationalizing the utilization of their administrative staff. SASRs vary to a large extent between types of institutions and fields of study. They are extremely low in fields such as Education and Information Technology (maybe because this last field has been developed only recently), while they are very high in Commerce and Economics, Law and Social Sciences. It is difficult to understand why there are such variations, and their implications for quality, efficiency and management need to be evaluated through specific studies.

Table 7: Student Administrative Staff Ratios, PNP Universities

	1997/98	1998/99	1999/00	2000/01
Education	31,8	22,8	19,2	20,0
Humanities	101,0	102,6	102,2	121,6
Social Sciences	76,1	102,7	101,7	96,6
Commerce & Economics	409,6	291,6	322,1	305,5
Law	272,9	209,7	173,3	175,8
Information Technology	16,3	16,5	15,8	13,6
Engineering	42,1	43,9	44,0	48,2
Medicine	31,2	41,0	26,6	27,1
Medical Professions	62,4	70,7	61,7	56,5
Science	42,9	40,8	39,0	39,9
Total	62,3	55,7	50,9	51,5

Similar trends may be observed for SASRs in PNA colleges (see table 8).

Table 8: Student Administrative Staff Ratios, PNA Colleges

	1997/98	1998/99	1999/00	2000/01
Education	22,7	13,7	12,4	16,5
Humanities	34,7	43,9	47,6	18,7
Commerce & Economics	41,1	41,6	33,6	32,9
Information Technology	19,7	23,6	18,1	13,7
Engineering	8,8	12,8	15,5	12,9
Medical Professions	0,0	0,0	0,0	179,0
Total	26,9	28,4	25,8	21,5

(c) Declining staff salaries and operational expenditure

Two main factors have counteracted the decline in student:staff ratios and explain why per student recurrent expenditure in PNP universities has decreased: (a) decreasing average salaries for academic and administrative staff, although salary scales have been maintained (see table 9); and (b) decreasing unit expenditure for operational expenses.

Table 9: PNP Universities Per Student Recurrent Expenditure (US$)

	1997/98	1998/99	1999/00	2000/01
Academic staff salaries	665,5	702,1	742,5	597,6
Administrative staff salaries	352,2	360,3	363,9	304,2
Non-salary recurrent expenditure	288,0	298,4	364,6	274,6
Total Per Student Recurrent Exp	1305,7	1360,7	1470,9	1176,4

These problematic financial and enrollment trends have led to the widespread perception among Palestinians that the quality of Palestinian HE has declined as a result of stretched resources and intensified pressures for enrollment growth. There are no systematic data to support this perception, but a prolonged period of enrollments growing much faster than resources should diminish the quality of the education provided. As stated in the 1999 Vision Statement, there is a growing perception amongst Palestinian and non-Palestinian academics that the quality of education (basic as well as higher) in Palestine has declined within the past decade. It also appears that Palestinian higher education has remained traditional in its approach (specialized rather than integrated) in the programs it offers, and the delivery system it employs (instructor-centered rather than student-centered).

1.3 Improving internal efficiency

There is a high degree of variation in internal efficiency across Palestinian universities and colleges. Among universities, newly admitted students as a share of total enrollments vary from less than one in six to more than one in three. Admissions represent a high proportion of total enrollments in newly established institutions and fields of study, but this is only a partial explanation and universities do differ in terms of internal efficiency. In public non profit universities, dropout

rates vary from less than 4 percent, in medical professions, to nearly 14 percent in information technology, showing that admission criteria are probably inadequate in newly established fields such as information technology and quality is not up to standards (see table 10). Finally, dropout rates are high at Al Quds Open University as in most open universities around the world.

TABLE 10: Dropout Rate (2000/01)

	PNP Universities	PNA Universities		Private Universities	Colleges
		Al Quds	Al Aqsa		
Education	0,075	0,144			0,052
Humanities	0,056				0,050
Social Sciences	0,122	0,181			
Commerce & Economics	0,080	0,148		0,044	0,149
Law	0,072				
Information Technology	0,138	0,184			0,166
Engineering	0,068				0,213
Medicine	0,060			0,381	
Medical Professions	0,037			0,028	0,067
Science	0,086	0,687		0,031	
Total	0,075	0,157		0,064	0,134

1.4 Raising external efficiency

Labor outcomes in the West Bank and Gaza are the result of many competing forces affecting labor supply and demand. The Palestinian labor market can be broadly characterized by a rapidly expanding labor force with shifting age and educational attainment structures, large Palestinian unskilled labor flows to Israel, significant levels of unemployment, a large civil service, and regional differentiation between the West Bank and Gaza strip.

Data from a labor force survey with a sample size of about 7,600 households located in WBG (excluding East Jerusalem) show that employed males average 9 years of schooling compared to only 8 years for unemployed males, suggesting that more education increases the likelihood of finding employment (see table 11). Disaggregating into categories of educational attainment, two-thirds of employed men have only a preparatory education or less. For women, the result is the opposite, namely women with more than a secondary education are more likely to be unemployed[5]

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[5] 'Palestinian Labor Market Outcomes and Policies'…

Table 11: Worker Characteristics

	Employed		Unemployed	
	Male	**Female**	**Male**	**Female**
Share	85.4	14.6	85.0	15.0
Average age	32.8	35.1	29.3	29.3
Average years of schooling	8.8	9.3	7.9	13.8
Educational attainment (%)				
Elementary or less	34.4	37.1	38.2	4.7
Preparatory	31.0	14.6	33.9	7.4
Secondary	16.8	10.5	14.8	11.9
Associate diploma	6.7	20.4	5.5	45.1
BA or higher	11.3	17.4	7.5	30.9
Resides in West Bank	71.1	81.8	55.0	64.3
Resides in Gaza	28.9	18.2	45.0	35.7

Data on wages by level of education in Palestine and the region (see table 12) have been used to approximate rates of return (ROR) to higher education. Those RORs must, however, be interpreted with caution since <u>no age-earning profiles were available</u>, only average wages by level of education: age-earning profiles were, therefore, approximated from those limited data. Sensitivity analysis showed, however, that RORs are not too sensitive to the way in which differences in average earning by level of education are distributed according to age. RORs have not been corrected to account for unemployment and are, therefore, over evaluated.

TABLE 12: Daily Wages for Employees Working in the Region
By Years of Schooling and Economic Activity (US$)

Economic Activity	Years of Schooling						Total
	0	1--6	7--9	10--12	13--16	17+	
Average Daily Wage							
Agriculture, Hunting & Fishing	14,9	16,5	17,2	16,6	19,6	12,1	16,7
Mining, Quarrying, & Manufacturing	12,1	15,5	17,1	18,1	20,0	24,6	17,3
Construction	20,5	24,3	25,4	25,7	24,4	31,5	25,4
Commerce, Hotels, & Restaurants	17,3	18,4	19,9	20,3	19,5	18,5	19,7
Transportation, Storage, & Communication	17,5	15,9	19,4	19,5	19,2	25,6	16,9
Services & Other Branches	14,6	13,7	14,0	14,1	17,1	27,7	16,5
Total	16,4	18,5	19,9	19,1	18,2	27,5	19,3

RORs are either negative or close to zero for college and graduate studies at university, while they are just above zero for post-graduate studies (table 13). This derives from the following reasons:

- There is nearly no wage difference between people with 10-12 and 13-16 years of schooling (table 12). The additional cost of higher education (direct cost plus income foregone) does not translate into, and is not compensated by higher income;

- Although wages increase significantly for people with more than 17 years of education, as compared to people with only 13/16 years, longer studies mean additional costs that are not compensated by increased wages.

These results are in contradiction with international evidence which show that higher education is a profitable investment, both at the social (country) and individual level. The present values of RORs to higher education in Palestine are mostly linked to the closure of the country which is a unique and temporary situation. There is an urgent need, therefore, to invest in the reform of higher education for long-term sustained development. This is also based on the political vision of the future of the country in the region. That vision emphasizes reintegrating the Palestinian State in the regional and world economy, and designing and implementing economic policies that will lead to this integration and fast economic growth. The intention is to build comparative advantage of the Palestinian economy through the provision of high level human resources. Because of the time needed for implementing the reform process and the need to turn from a supply oriented to a demand driven and flexible higher education system, the reform process should start as soon as possible.

TABLE 13: Rates of Return to Higher Education

	SOCIAL RATES	PRIVATE RATES
2 to 4 years of HE *All Economic Branches*		
Colleges	0,2	0,7
Universities	Negative	Negative
Services		
Universities	Negative	Negative
5 years of HE and more Universities		
All Economic Branches	0	0,1
Services	1,7	1,9

Global rates of return to higher education must, therefore, be interpreted while taking into consideration the following points:

- Without the presence of a secure and stable political environment, it would be extremely difficult to mobilize the resources necessary to facilitate access to the regional and world economy;
- The present situation in Palestine further aggravates the employment problem, especially for HE graduates;
- The market for HE graduates is presently narrow in Palestine, and many HE graduates employed in Israel are hired for jobs well below their level of education;
- University graduate qualifications are presently almost irrelevant to the needs of Palestinian economy.

About three-fourths of Palestinian students are enrolled in Social Sciences, Humanities, and Education for reasons that include: (a) the high proportion of high school graduates in

Humanities (approximately two-thirds of the total number of HS graduates), which is itself related to curriculum, teacher training and teaching practices, as well as the absence of an effective student counseling and guidance system at the secondary school level; (b) higher HE capacity in the non-scientific and non-technical fields; (c) students interest; and (d) the high demand for primary and HS teachers, given the fast expansion of enrollments at those levels.

These fields of study do not necessarily support the broader labor force needs in the region. This lack of relevance echoes the 1999 Vision Statement:'…the unchecked enrollment practice has led to the proliferation of graduates who are either unemployed (approximately 30 percent), or underemployed, especially in the humanities. By the same token, the community is seeking qualified graduates in other fields, especially those related to technical skills and knowledge of advanced technology.'

Palestinian HE may also have become less relevant over time since student enrollments in community colleges have been declining in absolute terms and as a percentage of total HE enrollments: Since 1992, the number of students enrolled in the universities has more than tripled, while community college enrollments have dropped sharply, and are still lower than in 1992, in spite of a late recovery. Yet the community colleges focus on the vocational and technical skills is increasingly needed in the region.

1.5 Improving Equity

Access to Palestinian HE varies by family income, but not significantly by gender. Students from poorer Palestinian families do not have access to the full range of opportunities: tuition and fees are high, and there is insufficient financial aid to help students and their families pay the high costs. These income-driven variations in participation and attainment can be seen in table 14. The rate at which students from the lowest consumption quintile participate in higher education (9 percent) is less than one-half the HE participation rate for students from the highest consumption quintile (21 percent). Table 14 also shows that socioeconomic status is also correlated with the years of education completed. Less than one-tenth of West Bank & Gaza residents from the lowest consumption quintile have received a university degree, whereas more than one-third of those in the top consumption income quintile are university graduates.

Table 14: University Graduates and Participation Rates by Quintile of Individual Monthly Consumption (1998)

Individual Monthly Consumption Quintile	Share of Population	Share of Graduates Form Universities	# Of 18-24 Yr. Old (In 000s)	# Of 18-24 Yr. Enrolled in University (In 000s)	Participation Rate (4/3)
Lowest	20%	9.1%	81.5	7.6	9.3%
Second	20%	14.8%	87.5	12.0	13.8%
Third	20%	15.7%	83.2	13.7	17.3%
Fourth	20%	23.4%	79.3	13.7	17.3%
Fifth	20%	37%	79.1	16.4	20.7
All	100%	100%	41.1	63.4	15.5

Source: World Bank calculation based on Palestinian Expenditure and Consumption Survey, 1998.
Note: These figures include those West Bank/Gaza residents who received degrees from non-Palestinian universities.

Another aspect of equity is the rate at which women participate in higher education. Gender inequity is not an issue in Palestinian HE. Palestinian women participate in HE at slightly lower rates than men, but their rates exceed those for other Middle Eastern countries and other developing regions of the world. They are not significantly lower than the rates in many developed nations (see table II.4, Appendix II). However, as in most other countries, female Palestinian students enroll disproportionately in education and other non-scientific fields, a statistic that should be a source of concern.

1.6 Enhancing sector management

Palestinian HE institutions and the MOHER both lack the management capacity to deal with the serious challenges that the HE sector faces. This lack of effectiveness, cast in terms of the broadest definition of management, is evident in many forms:

Lack of transparency in the financing of the higher education sector. The funding actually provided by the PNA to HE institutions is not precisely known and differs significantly from the amounts allocated through legislation. In the most recent years, for example, US$15 million in PNA funds was appropriated, but only US$5 million was actually allocated to the universities. The PNA distributes emergency funds to institutions, but outside of the budget process and in ways inconsistent with transparent management principles.

Lack of coordination between the MOHER and institutions. In the absence of significant public funding for HE that is funneled through the MOHER, the Ministry has little control and leverage over the activities of HE institutions. This undermines its ability to coordinate a sector that has lacked coordination since its inception 30 years ago. The system has developed in response to incentives that undermine the achievement of the nation's equity, quality, and relevance objectives. This requires governmental intervention and presence that maintains the

non-governmental, non-profit nature of the HE sector and at the same time aims at rationalizing the sector by altering these incentives to meet the human resource development needs.

Minimal cooperation among Palestinian HE institutions. The political and economic situation in West Bank & Gaza adds to the imperative for Palestinian universities and colleges to cooperate more with each other. Currently, there is little academic cooperation, yet competition for students continues and seems to have intensified in recent years, coupled with a duplication of academic programs, shortage of academic staff, and inadequate facilities, resulting in the unplanned rapid growth that stretches far beyond the ability of the system to finance this expansion.

Inadequate accreditation procedures. The current accreditation system is more of a checklist of certain criteria pertinent to availability of staff, resources such as library, and to some extent program structure. More ominous, institutions of higher education have neither pre-established criteria of quality nor statements of mission to guide their paths. None has been subjected to an objective evaluation process to determine the quality of education it is providing – in other words, comprehensive accreditation evaluation.

Lack of system-wide or institutional MIS and budget systems. The HE system lacks a modern, uniform higher education management information system (HEMIS). The statistical data now provided by higher education institutions are few and of questionable quality. They do not result in a coherent information base that can be used for HE planning. Key demographic and economic information published by the Palestinian Central Bureau of Statistics (PCBS) are not incorporated into any HE data base that can be used for planning purposes.

The existing accounting and reporting system is weak and does not conform to generally accepted accounting principles (GAAP). At the microeconomic level, it does not provide institutional financial reports which can be compared and aggregated. At the macroeconomic level, it fails to provide the data base for sectoral policy.

Inability to recruit mid-level staff at MOHER. MOHER lacks the technical expertise and, because of the low PNA salary scale, is unable to attract qualified staff to carry out many essential functions, including planning for expansion of the sector. Given the absence of an incentive system, and a capacity building scheme, it is likely that MOHER will continue to face this problem.

The lack of an adequate management structure for the HE sector and the general ineffectiveness of the sector should be a matter of great concern to all Palestinians. A society without an adequate means for providing a quality higher education to its citizenry is a society that will fall even further behind in the global competition.

1.7 The Consequences of Not Addressing the Challenges

The consequence of not addressing the challenges discussed in the preceding section is that quality will continue to decline, relevance will remain questionable and access will remain unequal. Any scenarios that fail to address these challenges would deny educational opportunities for thousands of Palestinians every year and would severely dim the prospects for economic growth and stability in the PNA and the Middle East region more generally. Specifically, not addressing the challenges facing the HE sector will only worsen the problems that currently exist.

Declining relevance.

- The HE sector will be unable to contribute to meeting Palestinian and regional human resource needs, including those required to meet regional economic goals.

Continuing compromises in institutional and program quality.

- Already strained resources will become more stretched, leading to further reductions in resources per student and probable declines in quality.

- Some institutions will have to become for-profit or close entirely, outcomes that are not necessarily bad, but it could worsen access.

Diminished access and capacity to meet future needs.

- Fewer seats and higher prices will mean less access, particularly for needy students for whom existing fees are already daunting.

- Restricted growth or possible declines in the number of seats will reduce the system's capacity to accommodate future growing demand.

- Students from wealthier families will more likely go to foreign universities, further reducing the quality of students attending Palestinian universities.

Ineffective management structure.

- Existing problems with system capacity and institutional management are likely to get worse.

- Problems in recruiting staff for institutions and MOHER will continue, leading to continued inability of the HE sector to address challenges

2

Developing a Financing Strategy

2.1 The Importance of Developing a Financing Strategy

The first chapter focused on the challenges facing Palestinian HE and the consequences of not addressing them. To a significant extent, these problems derive from the lack of sound public financing for the HE sector:

- *Relevance.* The lack of relevance in Palestinian HE stems, in part, from the traditional incapacity of the sector to target resources on those areas that are most critical to the future development of the Palestinian economy and society.   If Palestinians are to compete at the regional and international level, they must be equipped with new skills that are crucial to the process of nation building and globalization of the economy.

- *Quality.* Most Palestinian universities suffer from chronic deficits that prevent them from maintaining or improving quality.   Over the past half decade, Palestinian universities have not been able to train and recruit high level academic and administrative staff, acquire equipment, including computers, develop libraries and documentation centers, and upgrade facilities to accommodate the doubling of enrollments during that time. Nor are they prepared to deal with the possible flood of new enrollments that may arise from the projected burgeoning number of high school graduates.

- *Access and Capacity.* Because of the traditional lack of public funding, Palestinian universities rely extensively on fees that are not within the range that most Palestinians can afford without extraordinary sacrifice. Given the high fees and the absence of centralized financial aid to help students and their families pay HE expenses, students from poorer families are effectively being denied access to HE.

- *Management Structure.* Both the MOHER and the individual universities lack the management capacity to meet current and future needs of the HE sector as a whole. The absence of adequate management information systems is just one example of the incapacity of the current system to use resources effectively and efficiently.

The critical role of financing in these problems leads to the conclusion that MOHER cannot adequately address them without developing a financing strategy. This strategy should aim at:

- *Increasing Relevance and External Efficiency*
- *Improving Quality*
- *Improving Internal Efficiency*
- *Achieving Financial Sustainability*
- *Expanding Capacity in Response to Projected Demand*
- *Strengthening the Management Capacity of the Sector*

2.2 Principles of the Financing Strategy

Those responsible for developing a financing strategy must first recognize a fundamental reality. *The level of public financial support for Palestinian HE is not now sufficient, nor is likely to be sufficient in the foreseeable future, to provide fiscal sustainability of the system, as it currently exists.* University deficits are much larger than what the PNA currently provides or can reasonably provide in the future. Therefore, major reforms will be necessary and a financing strategy for Palestinian HE must be designed so that public funds are targeted in ways to improve what will remain a largely public-non-profit HE system. To do this, the financing strategy should be based on the following principles:

- Public support for HE will focus on enhancing the ability of students to pay for HE, not on sustaining institutions.
- Public funds will be targeted on meeting national and regional HRD needs by focusing on programs identified as having high priority.
- Public funds will be targeted to increase community college enrollments as a share of total HE enrollments in fields identified as national and regional priorities.
- The autonomy of public/non-profit Palestinian universities should be continued and combined with greater accountability by emphasizing incentives more than regulation of institutions.

Those principles mean that the global philosophy of the strategy is incentive-based rather than regulatory. A strategy fitting these characteristics is a student-based model in which students would receive vouchers that could be used at Palestinian university (see graphs 1 and 2).

2.3. Main Features of the Financing Strategy

Two points will be discussed below:
- Identifying high priority human resources development (HRD) needs; and
- Identifying the principal policy components of the strategy.

2.3.1 Establishing High Priority HRD Needs

Establishing high priority national HRD needs can best be accomplished through discussions between the Council of Higher Education (COHE), MOHER, the Ministry of Planning, the private sector and representatives of HE institutions. COHE will be in charge and will form a body including representatives of the various stakeholders. One reasonable approach would be for this body to meet annually for the purpose of identifying high priority HRD needs on the basis of: (a) recent trends on the local and regional labor market (such as data on employment and unemployment by level of education, field of study, gender and location); (b) demand for qualified workers emanating from private firms; (c) development plans and expected demand for high level manpower; etc. Rates of return by level of education and field of study will not be used to identify priority fields, since they mostly give a rearview assessment of the relation between supply and demand on labor markets. After the initial selection of priorities, subsequent meetings would examine whether these priorities should be altered in light of new data and information on labor markets. The priorities established by the COHE would be used to subsidize fees in priority fields of study.

2.3.2 Policy Components of the Financing Strategy

The heart of the financing strategy is the set of policies designed to meet the goals of improved relevance, quality, access, and management.

Strategy Component 1: Vouchers will be provided to students demonstrating high merit and high need who enroll in accredited programs in fields of high priority

The voucher system is a student-centered mechanism to financially support HE institutions.

Such a system would be administratively simple and would minimally disrupt the existing HE system. The institutions would receive public funding by cashing in vouchers. Student choice would be maximized, and universities would receive public funding in proportion to their ability to attract students in accredited programs that meet high national priority needs. The recommended proposal would be for all students seeking assistance to apply for aid. Eligibility would be based on an assessment of their merit, financial need, and field of study, as determined below:
- Merit would be determined on the basis of their academic credentials.
- Need would be determined on the basis of financial assistance forms. These forms should provide answers to a series of assessable questions including the location and size of a student's residence, assets in the family name, family size, etc. All the data should be easily verifiable and income would not necessarily be one of the questions asked.
- Enrollment in fields of high priority.

A student's eligibility for aid would be determined by the development of an index that would weight both merit and need components. COHE would determine the weights, which

could be changed over time. Students would receive a voucher listing their index number. That voucher could then be "cashed in" at any eligible institution. Students with the highest index would be eligible for the most aid. The list of eligible institutions/programs would be determined through a process managed by the MOHER and integrated with the strengthened accreditation process discussed below. Eligible institutions would be able to "cash in" the vouchers they collected by submitting them to the MOHER for payment on a prompt basis.

The value of vouchers would be a given proportion of the normative cost, as assessed in each institution and field of study (see Chapter 3). Normative costs (NCs) are economic costs defined as the sum of per student recurrent expenses and annualized capital costs per place. Vouchers may be set at a higher proportion of NCS in fields considered as having the highest priority, in colleges for example.

This scheme would have the following consequences:
- Students would have a strong incentive to study in priority fields, since the cost of their studies would be much smaller;
- HE institutions would have a strong incentive to develop study programs in priority fields, since such programs will be in high demand;
- Competition will be promoted between HE institutions, since they will try to offer the best programs in priority fields in order to be accredited and attract the highest number of students.

Strategy Component 2: Student loans would be expanded to allow a broader range of students and their families to pay their tuition fees.

Any HE system that relies heavily on tuition fees as a major revenue source should also provide loans to help students and their families pay those fees. Palestinian HE certainly qualifies in terms of heavy reliance on fees. But the availability of student loans in Palestinian HE has been modest so far, especially in light of the high level of fees. A few Palestinian universities maintain small revolving funds on their campuses for the purpose of granting student loans, but the total amount lent annually is around US$1.45 million, compared to a total annual bill for tuition fees that exceeds US$41 million in 2000-2001.

A successful financing strategy that entails high fees thus requires adequate provision of loans. This strategy suggests providing loans by building on existing student loan programs that are currently administered by the institutions. This would entail:

- Setting up a centralized Student Loan Revolving Fund administered by the MOHER that complements existing loan funds provided by the individual universities.
- Having the MOHER develop the rules and regulations necessary for managing the loan fund.
- Dividing administrative responsibilities between the Ministry, participating universities and a commercial bank.
- Giving borrowing priority to the needy, disabled and female students.

Given the resource constraints and economic pressures on the PNA, it is not recommended that public funds be the primary source of financing for student loans. Instead, this strategy proposes that the PNA and donors (local and international) be the primary source of capital for student loans. It must be noted in this regard that the Islamic Development Bank (IDB) and some Arab countries have already put an overall amount of US$20 million at the disposal of MOHER in order to fund a large student loan scheme.

Private banks and financial institutions under contract to the MOHER would manage loan repayments into the revolving fund. They would deal directly with borrowers to set up reasonable repayment schedules. Universities would not be placed in the position of servicing student loans. However, universities will be represented on the executive committee of the Fund.

Although the detailed characteristics of the Student Loan Scheme (SLS) should be determined by a committee where MOHER, HE institutions, students and commercial banks should be represented, some key points may be spelled out from the start:

- Eligibility should be determined by achievement and merit, on the basis of a weighted index incorporating both criteria;
- The annual amount lent per student should not be higher than a given proportion of the fee (presently 75 percent) and should be smaller when students receive a voucher;
- No interest rate should be charged to students, who would only pay administrative costs not higher than 1 to 2 percent of the amount lent;
- After graduation, students would repay the amount they borrowed (repayments would not be income contingent);
- Graduates would start repaying their loan once they are employed and repayment should not be higher than 10 percent of their earnings.

The size of the SLS will be determined by two key factors:

- Annual funds needed to grant new loans, after taking into account repayments made by graduates (financing constraints on the supply side); and
- Demand for loans emanating from eligible students, which will be partly determined by students' ability to pay fees.

Given the projected increase of high school graduates, demand for admissions will be strong and the proportion of students from poorer families will most certainly increase, raising the issue of their ability to pay. Fees will increase in proportion of NCs, because HE institutions will need to balance their accounts, and this will impact on demand, while on the other hand vouchers will stimulate demand in priority fields. SLS will, therefore, play a key role in promoting admission from students from poorer families, especially in high priority fields.

Strategy Component 3: A Quality Improvement Fund will be created to stimulate innovation in instruction and management of institutions.

One of the important unresolved questions regarding the recent history of Palestinian HE is the extent to which the rapid growth of enrollments without an equivalent increase in resources has led to a diminution in quality in the HE sector. While it is widely perceived that quality has declined, it is not known whether this is in fact the case. Therefore, it is proposed that a component of the financing strategy be an effort to improve the measurement of quality within the HE sector in its various forms. Data should be collected on how well students are prepared to do university work; the value added in what students learn while enrolled in Palestinian universities and colleges; and the research conducted by faculty at Palestinian universities.

This strategy also proposes the creation of a Quality Improvement Fund (QIF) for Palestinian HE for the purpose of improving teaching in key areas. The MOHER in coordination with COHE would allocate a percentage of the HE budget to set up a QIF that would be used for areas such as faculty/staff development, training, program development, encouraging income generating projects, upgrading facilities, and enhancing distance learning. QIF Grants would be awarded for faculty or university-generated proposals on a competitive basis.

A complementary way to prevent quality from deteriorating would be to control admissions through the following mechanisms:

- Accreditation will be granted by a commission making recommendations to MOHER on the basis of pre-established criteria. For each program, in each HE institution, accreditation will be limited to a ceiling expressed in terms of enrollments capacity. This commission is already set up and will be fully operational in June 2003;
- The voucher mechanism will strictly limit assistance to students enrolled in accredited programs in priority fields;
- Fee levels will necessarily be high in non-priority fields, which will limit demand for admission.

Strategy Component 4: Research will be funded separately from instruction on a project, peer review basis in areas of high national priority

One important objective of establishing a financing strategy is to selectively build the research capacity of Palestinian HE institutions. The current financing framework essentially does not fund research. To address this weakness, the strategy advocates the allocation of a research fund, separate from the basic funding for instruction and operations. World international experience indicates that it is very difficult to create or improve the research function when its funding is co-mingled with that for other purposes, such as instruction. Under such a split funding approach, research might be funded in a two-step process. First, the MOHER would allocate a specific amount for funding research proposals and, in consultation with the Council for Scientific Research (CSR) and the Higher Council for Science and Technology (HCST), would indicate the priority areas for funding. In the second step of the process, the Research Council would review proposals and recommend which proposal should be funded according to a set of criteria.

The CSR will receive its principal funding from the HCST, with the funding to be allocated solely to encourage research projects in institutions of higher education. The CSR's Funding Committee would set the criteria for selection, resource allocation, and monitoring of projects, while the CSR would be responsible for judging the merits of research proposals on the basis of clear criteria.

Strategy Component 5: A Capital Development Budget, to be funded primarily by donors, will be formulated to finance the building and repair of facilities

One of the glaring gaps in the current financing structure for Palestinian HE is the absence of a realistic plan for the construction, maintenance, and repair of facilities. This problem is the result of a number of historical developments, including the traditional reliance on NGOs and donors for development funds, and the lack of a governmental agency to help rationalize priorities for construction of facilities and acquisition of equipment.

To address this traditional lack of capital planning and budgeting, the establishment of a Capital Development Fund is proposed. The fund would support capital development needs of the universities and community colleges, and would include endowments and donations. The MOHER would rank capital improvement projects to assist institutions in developing ongoing and future programs on a competitive basis. Priority will be given to programs that meet national high priority needs and encourage the creation of centers of excellence.

Graphs 1 and 2 give a detailed description of the rationale and mechanisms of the financing strategy. Its philosophy is clearly incentive-based, as can be seen from the following characteristics:

- Vouchers will be strong incentives for students to enroll in priority fields and for institutions to develop such programs and have them accredited;
- Funds from the QIF, CF and RF will be granted on a competitive basis to good projects aiming either at improving HE quality, expanding capacity, improving equipment and/or carrying out priority research projects.

Regulatory aspects are limited to:

- The identification process of priority fields, which will be conducted in close cooperation with all stakeholders, on the basis of evidence and labor markets in-depth assessment;
- Conditions/criteria that students must fulfill to apply for a voucher and/or loan;
- Conditions/criteria that institutions must fulfill to apply for QIF, CF and RF.

Finally, fees will be set by HE institutions and will not be regulated by MOHER.

Chart (1): Proposed Financing Scheme – Palestinian Higher Education

PNA

DONORS   MOHER   PRIVATE SECTOR

HE DEVELOPMENT FUND

- Capital Improvement Fund

- Research Fund

- Quality Improvement Fund

- Scholarships Fund

COHE FUNDING COMMITTEE

STUDENT REVOLVING LOAN FUND

Awards Based on Merit & Need

Repayments

INSTITUTION OF HIGHER EDUCATION   LOANS   STUDENTS

Fees & Repayments

⟶ Funding

┄┄► Information
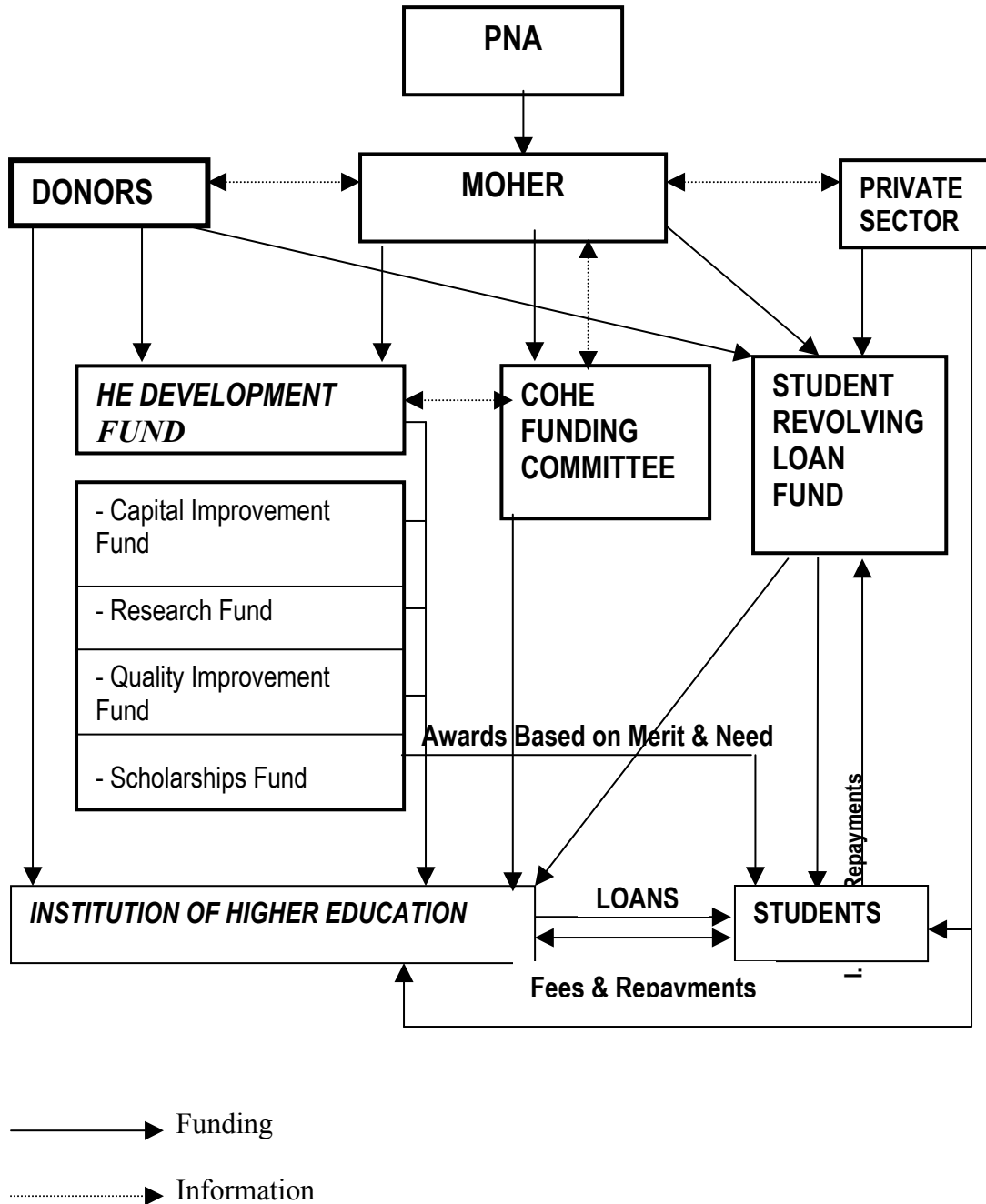
**Chart (2): Logic of the Proposed Financing Strategy
For Palestinian Higher Education**

Challenges/Goals   **Polices/Means**   **Costs/Comments**

Achieving Greater Relevance

Improving Quality Through Better Resource Allocation

Maintaining Access & Expanding Future System Capacity

Improving the Management of Institutions and HE

Payments to Institutions to Support High Priority Fields of Study

Separate Funding for Research

Create Quality Improvement Fund

Establish Capital Development Fund

Student Vouchers

Administrative/Regulatory Measures – Accreditation, Management Improvement Plans, MIS, Revise Tuition Setting

3

Assessing the Financing Strategy

3.1 The Budget Tradeoff Model

The Budget Tradeoff Model (BTM) is a tool for assessing the effects of different scenarios. The model will take into account several variables such as priority areas, number of students, funding sources and levels, tuition fees, and economic and demographic projections. The development of such a model will definitely help MOHER and PNA in simulating and discussing a variety of funding options among the different stakeholders.

The BTM is meant to specify and operationalize the strategy. It has been designed to address the following issues:

- What would HE resource needs be in the medium to long range (5 to 10 years), under: (a) alternative scenarios concerning admissions and enrollments by type and status of institution (universities/community colleges; traditional/open universities; public non-profit, PNA, private) and field of study; and (b) alternative assumptions about quality, efficiency, capacity expansion, external efficiency, and improved HE sub-sector and institution management?
- How might admissions vary by type and status of institution, and field of study, under: (a) alternative fee levels; and (b) alternative mechanisms for financing students' fees? Those mechanisms would include: (i) vouchers – covering a given share of fees or normative costs (see 3.1.3) – granted to all students admitted into priority fields of study; (ii) fee funding loans, granted to poor students engaged either in priority or all fields; (iii) scholarships, directed to a limited number of high achieving poor students, and which would fund their whole fee; (iv) family contribution; and (v) any combination of those four sources.
- What would be the financing requirements and funding sources for students' assistance, under the alternative schemes considered above, given their impact on admissions and loan conditions (eligibility, interest rate, maximum amount per year and total, duration of repayment period, etc.)?

- What would be the contributions from the various sources (PNA, donors, and students) and the financing mechanisms that would respond to the needs and contribute best to achieving the objectives of external efficiency, quality, internal efficiency, financial sustainability, capacity expansion and improved management?

In order to address those issues, the BTM is composed of the following five sub-models:

3.1.1 A sub-model for projecting admissions and enrollments (Base sub-model):

- Admissions are assessed in percent of high school graduates (new and backlog) of the preceding year that are admitted into universities/colleges by type/status of institution and field of study. They are considered as determined by the admission criteria set by HE institutions, fee levels, vouchers, financial assistance available, employment opportunities and earnings associated.
- Enrollments are projected taking into consideration dropout and graduate rates by nature of institution and field of study.

3.1.2 A sub-model for projecting staff and premises requirements (Real resources sub-model):

- Teachers and non-teaching staff (administrative and service staff) are projected using student/staff ratios;
- Teaching and administrative areas are projected using average space per student for teaching and other purposes.

In both cases, ratios are assessed by nature of institution and field of study. Two main assumptions are used: (a) no change in base year ratios; and (b) changes in student/staff ratios and teaching/administrative space per student aiming at improving quality and raising efficiency. Those changes will include lower student/teacher ratios in fields of study where they are considered too high, and increased teaching space per student, to assess the impact of quality improvement (teachers, premises), as well as higher student/staff (teaching and non-teaching) ratios, when they are considered too low, to assess the impact of efficiency improvement.

3.1.3 a sub-model for projecting an institution's financial resource requirements, normative costs per student, fee and voucher alternative levels, and total resources deriving from fees and vouchers (Expenditure sub-model):

- Recurrent expenses are projected as the sum of teachers and non-teaching staff salaries, and non-salary recurrent expenses. Salaries derive from staff numbers (Real resources sub-model) and average salaries based on the distribution of staff by category/qualification and corresponding salary scale. This distribution is considered as one component among the set of options for raising quality. Non-salary recurrent expenses are projected on a per-student basis, with increases accounting for quality improvement.
- Capital expenses are assessed as the sum of building and equipment expenses. Building expenditures are projected taking into account additional space required for teaching and other purposes, as needed by increase enrollments (Base sub-model),

eventual changes in average space per student, and building costs per square meter. Equipment expenses are assessed on a per student basis and projected according to the increase in enrollments.

- <u>Normative costs</u> are defined as the sum of per student recurrent expenses (by type/ status of institution and field of study) and annualized capital costs per place. Both recurrent and capital costs are assessed using the scenario options regarding student/staff ratios, space and equipment cost per student for the year considered.

- <u>Fees</u> are assessed as a percent of the normative cost of the corresponding year, and are set by type/status of institution and field of study. Vouchers are granted to all students enrolling in priority fields and cashed by the institution. They are set as a percent of the corresponding normative costs and allow institutions to charge reduced fees to students enrolling in priority fields. Total vouchers are linked to projected enrollments in priority areas: since these areas are not yet clearly specified, it was assumed that they would represent a given percentage of all enrollments in the following five fields of study: Information Technology; Engineering; Medicine; Medical Professions; and Science.

3.1.4 A sub-model projecting sub-sector financing (Financing sub-model):

- <u>Student financing</u>. Given the lack of information on subsistence expenses, and since it was assumed that most students would be enrolled in institutions close to where they live, subsistence expenses were not taken into consideration in the present version of the model. Fees are financed through four main sources: vouchers (Expenditure sub-model); loans; scholarships (see below PNA contribution); and family contribution. It is assumed that loans are granted to low-income students with good achievement, whatever their field of study. Each year, a given percentage of newly admitted students are granted loans covering a maximum share of the fee, at a low interest rate (1.5% per year, according to present conditions). The repayment period may vary, as well as the default rate. The way students fund their tuition fees is expressed in value and percentage of total fee expenses.

- <u>The student loan scheme</u>. New and total loans are assessed, as well as annual repayments, in order to evaluate the extent to which additional funds are required to finance new loans, depending on the average length of the repayment period.

- <u>PNA contribution and budget</u>. PNA contribution is composed of five main categories: (a) Vouchers (Expenditure sub-model); (b) Scholarships (assumption); (c) Quality improvement fund: aside from premises and equipment, quality improvements derive from teacher training and increased recurrent allowances per student (Base sub-model). Based on normative costs, total needs are assessed and various assumptions are used to specify the extent to which PNA will fund these needs for non-PNA and PNA institutions; (d) Capital improvement fund: investment needs for the expansion of premises and additional equipment induced by enrollments increase are assessed. Various assumptions are tested again about the share of capital needs that will be funded by PNA for PNA and non PNA institutions; (e) Research fund: a pre-determined amount is set aside for funding research projects on a competitive basis. The MOHER budget (excluding direct Ministry expenses) is projected and the financial gap is

assessed based on alternative amounts allocated to MOHER for funding HE institutions.

- Institutions budgets (recurrent and capital expenditure). Expenditure by type/status of institution and field of study derive from the Expenditure sub-model. Recurrent funding comes from the following sources: (a) Fees; (b) Vouchers; (c) Scholarships; (d) Quality improvement fund; and (e) other sources (sales of services, grants, etc.). Capital funding is based on: (a) Capital improvement fund; (b) Grants from donors; and (c) Loans. As for PNA, the financial gap of each institution is assessed, both for recurrent and capital expenditure.

3.1.5 A sub-model summarizing all assumptions and outcomes (Synthesis sub-model):

3.2 Using the Budget Tradeoff Model

The BTM may be used in various complementary ways:

- Assessing the impact of alternative assumptions about admissions on enrollments by nature of institution and field of study;
- Assessing the impact of alternative assumptions about student:staff ratios and space per student on staff and premises requirements, and on investment needs for capacity expansion;
- Assessing the impact of alternative assumptions about student:staff ratios, distribution of staff by qualification/salary scale, space per student, and equipment expenses on normative costs by nature of institution and field of study;
- Assessing the impact of alternative fee and voucher levels, and alternative enrollments in priority fields, on total fees and vouchers by nature of institution and field of study, and their contribution to institutions recurrent expenses;
- Assessing the impact of fee and voucher levels on students contributions and ways to fund them through the student loan scheme;
- Assessing the impact of the number of loan beneficiaries, average amount borrowed, average length of repayment period and default rate on the increase of loans and funds required to finance the student loan scheme;
- Assessing the impact of all previous assumptions and of MOHER contribution to QIF, CF, Scholarships and Research fund on MOHER total contribution and financial gap; and assessing the impact of all previous assumptions on the recurrent and capital accounts of PNA and non-PNA institutions and their eventual recurrent and capital gap; and
- Identifying 'preferred' scenarios.

3.3 Building Scenarios

10 scenarios were built in order to identify the consequences of alternative assumptions about admissions, student:staff ratios, space per student, priority fields, values of vouchers in relation to normative costs, fee levels, proportion of students benefiting from a loan, average

amount of loan for students in priority and non-priority fields, and MOHER's contribution to the Quality Improvement and Capital Funds. Two complementary approaches were used:

- Using sensitivity analysis in order to assess the consequences of limited changes of each of the main assumptions/parameters;
- Constructing and evaluating 'preferred' scenarios fitting preset constraints and/or attempting to maximize specific objectives.

Scenario 1, also called 'Standard Scenario' has the following characteristics:

- Unless otherwise specified, all parameters are set by type/status of institution and field of study;
- Admission rates stay globally at the same level as in 2000/01, but ratios by type/ status of institution and field of study vary;
- Student:staff ratios vary as follows: (a) higher ratios have been set as targets for 2010/11, when the present ones were deemed too low (such an option concerns academic as well as administrative and service staff, and assumes that efficiency is raised); (b) lower ratios were used when their present level was considered too high (this option only concerns teachers, and is considered as a way of improving teaching conditions);
- Teaching and administrative space per student increase when present averages are deemed too low (such an option concerns mostly teaching space per student and is considered as a way of improving teaching conditions);
- The proportion of full professors, associate professors and assistant professors increases, while the proportion of lecturers and teachers decreases significantly. There is no change, however, in the distribution of administrative and service staff by salary scale;
- Building costs are set at US$400 per square meter for teaching spaces and 350 for administrative and other spaces;
- Equipment costs per student are set by type/status of institution and field of study;
- Fees are set at 100 percent of normative costs in non-priority fields, and at 70 percent in priority fields;
- Vouchers are fixed at 30 percent of the normative costs in priority fields and are granted to all students enrolled in those fields, whatever the institution. Priority fields are estimated as representing 40 percent of total enrollments in five fields of study: Information Technology; Engineering; Medicine; Medical professions and Science;
- The proportion of students benefiting from loans is 8 percent in 2001/02, a projected 10 percent in 2005/06 and 12 percent in 2010/11. The average annual loan amounts respectively to 50 percent of the fee in non-priority fields and 30 percent in priority fields where students receive a voucher. The interest rate charged to students is 1.5 percent and the repayment period is either 5 or 10 years (both options are considered in each scenario).

- The Quality improvement fund is set at 10 percent of the initial amount allocated by PNA to MOHER for funding the various components of the strategy. MOHER funds respectively 10 percent of Capital Needs for all HE institutions.
- The Quality improvement fund is set at 10 percent of the initial amount allocated by PNA to MOHER for funding the various components of the strategy. MOHER funds respectively 10 percent of Capital Needs for all HE institutions.

Scenarios 2 to 10 differ from scenario 1 as indicated in table 15.

Table 15: Typology of Scenarios

	DIFFERENCES IN RELATION TO SCENARIO 1
Scenario 2	Lower admission rates
Scenario 3	Base year student:staff ratios and space per student during the whole projection period
Scenario 4	Priority fields represent 30 percent of the total number of students in Information Technology, Engineering, Medicine, Medical Professions and Science, instead of 40 percent in scenario 1
Scenario 5	Fees in priority fields amount to 60 percent of NCs instead of 70 percent, and vouchers 40 percent of NCs instead of 30 percent
Scenario 6	Fees in non priority fields are set at 90 percent of NCs instead of 100 percent
Scenario 7	The proportion of loan beneficiaries is 10 percent in 2001/02, 15 percent in 2005/06 and 20 percent in 2010/11, instead of 8 percent, 10 percent and 12 percent
Scenario 8	The average loan per student per year amounts respectively to 40 percent of the fee in non priority fields and 20 percent in priority fields, instead of 50 percent and 30 percent in scenario 1
Scenario 9	The average loan per student per year amounts respectively to 40 percent of the fee in non priority fields and 40 percent in priority fields
Scenario 10	The Quality Improvement Fund is set at 15 percent of the initial amount allocated to MOHER, instead of 10 percent; MOHER funds 5 percent of capital improvement needs in HE institutions instead of 10 percent

3.3.1 The impact of alternative admission ratios on enrollments by nature of institution and field of study

The projected number of high school (HS) graduates increases at a rate higher than 11 percent for the period 2001/05. Therefore, even if more restrictive admission criteria were applied in the future, leading to a limited decline in the global admission rate (Ratio of admitted students to HS graduates), total admissions would increase very quickly, as would total enrollments.

Scenarios 1 and 2 (see table 15) have been compared to assess the impact of lower admission ratios on enrollments.

In 2010/11, total HE enrollments differ by only 5 percent between both scenarios, because of the limited short-term impact of changing admissions on total enrollments (see table 16). If a longer period were considered, the impact would be bigger. In both scenarios, enrollments increase very quickly because of the dynamics of HS graduates: depending on the assumption, they would be multiplied by 2.6 to 2.8.

Table 16: Projected HE Enrollments under Alternative Admission Assumptions
(Rates in %; Enrollments in 1000)

	2000/01	2010/11 Scenario 1: High assumption	2010/11 Scenario 2: Low assumption
Admission Rate (%)			
Universities	64,0	63,0	59,0
Colleges	2,9	3,6	3,6
Total	**66,9**	**66,6**	**62,6**
Enrollments (1000)			
Universities	72.5	201,7	192,0
Colleges	2.5	6.5	6.5
Total	**75.0**	**208,2**	**198,5**

The main policy issue, however, is the extent to which MOHER should control admissions into HE, and how, in order to take into account tradeoffs between quantitative expansion and reform. One option would be to reach an agreement with HE institutions in order to set higher admission criteria, though it would go against the interests of the institutions which aim at attracting as many students as possible in order to maximize their income.

3.3.2 The impact of alternative assumptions about student:staff ratios and space per student on staff and premises requirements, and on investment needs for capacity expansion

Scenarios 1 and 3 are used to assess the impact of student:staff ratios and space per student norms. Table 17 shows the existing and projected student:staff ratios under both scenarios: in scenario 3 (same ratios as during base year), average ratios do vary slightly in relation to their 2000/01 level, because of changes in the relative share of each type of institution and field of study in total enrollments during the projection period.

Table 18 shows the projected number of teachers, administrative and service staff in each scenario (see also tables I.9 to I.12, Appendix I, for base year and projected student:teacher and non-teaching staff ratios by nature of institution and field of study). The increase in the average student:teacher ratio in universities is partly related to the expansion of enrollments at Al Quds Open University, with the economies of scale it implies: student:teacher ratios have been projected at an average level of 300 in all fields of study, while they varied between 33 and 289 in 2000/01. Since Al Quds enrolls more than 40 percent of all university students, the impact of those economies of scale on the average student:teacher ratio and the total number of teachers in 2010/11 is quite marked, especially in fields such as education.

Table 17: Student/Staff Ratios

	Teachers	Administrative Staff	Service Staff
2000/01			
Universities, except Al Quds	22,3	50,6	99,7
Al Quds	123,7	81,9	454,3
Colleges	18,4	21,5	193,6
2010/11			
Scenario 1			
Improved ratios			
Universities, except Al Quds	24,8	90,4	173,8
Al Quds	300,0	100,0	800,0
Colleges	20,8	43,5	264,7
2010/11			
Scenario 3			
Unchanged ratios			
Universities, except Al Quds	20,7	39,8	73,4
Al Quds	133,5	83,4	474,6
Colleges	17,8	18,9	168,6

Table 18: Teachers, Administrative and Service Staff

	Teachers	Administrative Staff	Service Staff	Total
2000/01				
Universities	2335	1243	531	4109
Colleges	137	117	13	267
Total	**2472**	**1360**	**544**	**4376**
2010/11				
Scenario 1 Improved ratios				
Universities	5098	1733	790	7621
Colleges	287	148	25	460
Total	**5385**	**1881**	**815**	**8081**
2010/11				
Scenario 3 Unchanged ratios				
Universities	6379	3990	1800	10549
Colleges	364	341	39	744
Total	**6743**	**4331**	**1839**	**12913**

More sophisticated assumptions would require an in-depth study of curricula by field of study, hours devoted to lectures, directed and practical activities, average and maximum size of students groups for each of those activities, and staff time utilization. Another approach would be to use average student:staff ratios in other, more advanced countries, but this last approach has a more limited potential than the analytical in-depth study.

The combined impact of lower student:teacher and student:non teaching staff ratios in some fields and higher ratios in other fields is a lower total staff for the same number of students, showing that improved efficiency and quality may be achieved if HE institutions are able to design and implement a long-term strategy to this end.

Scenarios 1 and 3 have been used to assess the impact of space per student on building requirements and corresponding capital costs (see table 19).

In scenario 3, needs for teaching and administrative space increase less than enrollments because of economies of scale related to Al Quds Open University, while the impact of higher norms is lessened in scenario 1 for the same reason (see table 20). Even in scenario 3 though, additional space required, either for teaching or administrative purposes, is twice the total existing space in 2000/01, which gives an idea of the huge effort to be made for expanding capacity in response to demand, without any improvement in terms of space per student. The picture is rather distinct if more space per student is programmed: the additional teaching space required is 3.5 times the total space that is presently allocated to teaching in all HE institutions.

As for staff needs, more sophisticated assumptions would require an in-depth study of curricula by field of study, time devoted to lectures, directed and practical activities, average and maximum size of students groups for each of those activities, areas of classrooms for each type of teaching activity, and space utilization. Another approach would be to use average space per student ratios in other, more advanced countries, but again this last approach has a more limited potential than an analytical in-depth study.

Table 19: Space per Student (square meter per student)

	Teaching Space Per Student	Administrative Space Per Student
2000/01		
Universities	1,58	0,31
Colleges	3,54	0,49
2010/11		
Scenario 1		
Improved ratios		
Universities	2,57	0,62
Colleges	5,50	1,00
2010/11		
Scenario 3		
Unchanged ratios		
Universities	2,00	0,43
Colleges	3,88	0,62

Table 20: Teaching and Administrative Space (1000 square meter)

	Teaching Space	Administrative Space	Total
2000/01			
Universities	114.4	22.1	136.5
Colleges	8.9	1.2	10.1
Total	**123.3**	**23.4**	**146.6**
2010/11			
Scenario 1			
Improved ratios			
Universities	518,0	125,6	643,6
Colleges	35,5	6,5	42,0
Total	**553,6**	**132,1**	**685,6**
2010/11			
Scenario 3			
Unchanged ratios			
Universities	213.0	43,1	256,1
Colleges	12,9	1,9	14,8
Total	**225,9**	**45,0**	**270,9**

Resources for building additional teaching and administrative space are shown in table 21. In scenario 1, the amount needed is 4.3 times the amount in scenario 3, and even under scenario 3, around US$5 million should be invested each year until 2010/11.

Table 21: Cost of Additional Teaching and Administrative Space (US$ million)

	Teaching Space	Administrative Space	Total
2010/11			
Scenario 1	172,1	38,0	210,2
Scenario 3	41,0	7,6	48,6

3.3.3 *The impact of alternative assumptions about student:staff ratios, distribution of staff by qualification/salary scale, space per student, and equipment expenses on normative costs by nature of institution and field of study*

Since they express the economic cost of a student-year by field of study and nature of institution, normative costs play an important role in the model:
- They constitute the best reference for setting fees and vouchers;
- Since they vary over time to account for changes in student:staff ratios, average staff salaries, and space per student, they provide a sound basis for adjusting the value of fees and vouchers;

- They provide vital information to sub-sector and institutional decision makers on actual costs, giving them guidelines and benchmarks to improve efficiency, raise quality and reduce cost disparities between institutions in the same field of study.

Since normative costs are linked to the set of assumptions concerning student:staff ratios, average staff salaries, and space per student, it is useful to assess them under alternative assumptions and identify their impact on fees and vouchers. Scenarios 1 and 3 have been used for sensitivity analysis.

The comparison of normative costs in table 22 leads to the following conclusions:
- Opposite to preconceived ideas, NCs are higher in colleges than in universities. This is linked to two main factors: (a) student:staff ratios are generally much lower in colleges than in universities; and (b) student:staff ratios at Al Quds Open University strongly influence universities averages. Annualized capital costs amount to a limited percentage of NCs and do not have a significant influence on NCs in colleges as compared to universities;
- In 2010/11, universities and colleges NCs are lower in scenario 1 than in scenario 3. This is due to the impact of student:staff ratios that is only partly compensated by increased average teacher salaries.

Table 22: Impact of Student/Staff Ratios, Space Per Student and Teacher Qualification on Normative Costs Per Student

	Scenario 1		Scenario 3	
	Universities	**Colleges**	**Universities**	**Colleges**
Average Student/Teacher Ratio	39,6	22,5	31,6	17,8
Average Student/Administrative Staff Ratio	116,4	43,5	50,6	18,9
Average Student/Service Staff Ratio	255,2	264,7	112,1	168,6
Average Teaching Space/Student	2,57	5,50	2,00	3,88
Average Administrative Space/Student	0,62	1,00	0,43	0,62
Distribution of Teachers by Scale (%)				
Full Professor	10,0	10,0	4,1	4,1
Associate Professor	30,0	30,0	22,7	22,7
Assistant Professor	30,0	30,0	17,5	17,5
Lecturer	22,0	22,0	18,6	18,6
Teacher	8,0	8,0	37,1	37,1
Average salary (US$)	19504	19504	16915	16915
Average Normative Cost per Student (US$)				
2001/02	(880) 1253	1621	(932) 1313	1674
2005/06	(890) 1370	1529	(1063) 1591	1662
2010/11	(814) 1273	1480	(990) 1480	1652

Note Two sets of normative costs are given: in parenthesis, all universities; without parenthesis, all universities except Al Quds open university

3.3.4 The impact of alternative fee and voucher levels in relation to normative costs, and alternative size of priority fields on total fees and vouchers by nature of institution and field of study

Scenarios 1, 4, 5 and 6 (see definitions in table 15) have been used to assess alternative fee and voucher options. Tables 23 and 24 show their impact on:
- The total value of vouchers;
- The relative importance of vouchers as a funding source for students fees;
- The relative importance of fees and vouchers as funding sources for institutions recurrent expenditures and their impact on institutions financial gap.

The comparison of the outcomes of the four scenarios (see tables 23 and 24) leads to the following conclusions:
- As could be expected, the size of enrollments in priority fields and the individual value of vouchers have a strong influence on the total value of vouchers and corresponding MOHER contribution under this component of the financing strategy. This is especially clear when comparing scenarios 4 and 5. In the latter scenario, total vouchers reach US$14.2 million, an extremely high level when compared to the present MOHER contribution to HE institutions. MOHER should, therefore, be very careful in deciding about priority fields and setting vouchers levels;
- Even in scenario 5, where total vouchers are high, they do not represent much more than 10 percent of students' resources for fee funding. Therefore, vouchers are not, nor will they become, a very significant resource for the students as a whole. They will, however, be a significant source for those enrolling in priority fields; this incentive needs to be carefully assessed, lest MOHER face a very strong increase of demand for these fields;
- With fees set at 100 percent of NCs in non-priority fields, in scenarios 1, 4 and 5, fees and vouchers largely balance HE institutions recurrent expenses, while some institutions show a recurrent deficit in scenario 6 where fees are set at 90 percent of NCs in non-priority fields. Except in scenario 6, fees represent between 90 and 110 percent of recurrent expenses since they are fixed in relation to NCs, which include annualized capital costs;
- Vouchers fund a share of recurrent expenses that is under 10 percent in most scenarios and for most institutions. This share is related to the relative development of priority fields in each institution and the value of vouchers in relation to NCs. Vouchers are not, therefore, a significant mechanism for financing institutions recurrent expenses in general. They will, however, play as an incentive to institutions for developing innovative programs attracting additional students.

Table 23: Total Value of Vouchers and Share in Total Students Fees

	Total Vouchers (US$ million)		Vouchers in % of Students Contribution	
	2005/06	2010/11	2005/06	2010/11
Standard Scenario (SS1)	6,8	10,7	7,1	7,3
SS4	5,1	8,0	5,4	5,6
SS5	9,0	14,3	10,1	10,3
SS6	6,8	10,7	7,6	7,7

Table 24: Impact of Alternative Fees and Vouchers on Institutions Recurrent Funding

	Recurrent Financial Gap (US $ million)		Share of Fees In Recurrent Expenses		Share of Vouchers In Recurrent Expenses	
	2005/06	2010/11	2005/06	2010/11	2005/06	2010/11
SS1						
PNA Colleges	0,72	1,27	107,1	107,3	5,7	6,3
Al Quds Open University	0,59	0,86	103,6	104,3	0	0
Other PNA Institutions	1,79	3,24	110,0	104,3	5,1	8,5
Non-PNA Institutions	12,83	15,18	108,6	105,8	8,3	7,5
SS4						
PNA Colleges	0,72	1,27	108,5	108,8	4,3	4,7
Al Quds Open University	0,59	0,86	103,6	104,3	0	0
Other PNA Institutions	1,79	3,24	111,2	106,4	3,9	6,4
Non-PNA Institutions	12,83	15,18	110,6	107,6	6,3	5,7
SS5						
PNA Colleges	0,72	1,27	105,2	105,2	7,6	8,4
Al Quds Open University	0,59	0,86	103,6	104,3	0	0
Other PNA Institutions	1,79	3,24	108,2	101,4	6,9	11,4
Non-PNA Institutions	12,83	15,18	105,9	103,3	11,0	10,0
SS6						
PNA Colleges	0,41	0,75	100,5	101,1	5,7	6,3
Al Quds Open University	-0,16	-0,21	94,2	94,9	0	0
Other PNA Institutions	1,04	2,27	102,7	100,1	5,1	8,5
Non-PNA Institutions	9,16	9,41	103,6	100,6	8,3	7,5

3.3.5 the impact of the number of loan beneficiaries, average amount borrowed, average length of repayment period and default rate on the increase of loans and funds required to finance the student loan scheme

Scenarios 1, 7, 8 and 9 (see table 15 for definition) are used to assess the impact of alternative options for student loans on the increase in the total amount lent to students, the extent to which the loan scheme is self financed and the relative importance of loans in funding students tuition fees.

The following conclusions may be drawn (see table 25):
- The number of loan beneficiaries has an obvious and strong impact on the total amount lent to students. This is a key parameter, since repayments always represent a limited share of new loans (see % self financing) for various reasons, among which:

(a) the number of beneficiaries increases in relation to total enrollments, inducing a time lag between new loans and repayments; and (b) the longer the repayment period, the smaller the annual amount repaid by students in relation to their outstanding debt. The institutions financing the loan scheme must, therefore, be prepared to inject annually substantial amounts of additional funds, which will be repaid only in the long range. Another key factor to control is the default rate, assumed at 5 percent in all scenarios. Finally, the interest rate charged to students, which is assumed at 1.5 percent in all scenarios, plays a key role in students' debt;

- In 2010/11, loans will fund between 5 percent and 10 percent of students' expenses, depending on the scenario. Loans will not play a major role in funding students' fees in general, but they will be a significant funding source for those students benefiting from a loan.

Table 25: Students Loan Scheme

	New Loans Granted ($ million)		Total Loans (US$ Million)		% Self Financing		% Loans in Students Expenses	
	2005/06	2010/11	2005/06	2010/11	2005/06	2010/11	2005/06	2010/11
SS1								
5 years repayment period	4,7	8,8	23,6	61,6	29,8	34,7	4,9	6,0
10 years repayment period	4,7	8,8	24,3	62,5	15,0	24,9	4,9	6,0
SS7								
5 years repayment period	7,0	14,2	33,0	93,8	27,0	33,7	7,4	9,7
10 years repayment period	7,0	14,2	33,9	95,3	13,4	23,1	7,4	9,7
SS8								
5 years repayment period	3,7	6,9	18,9	48,8	29,9	34,7	3,9	4,7
10 years repayment period	3,7	6,9	19,5	49,5	15,2	24,9	3,9	4,7
SS9								
5 years repayment period	4,0	7,5	20,4	53,1	29,6	34,6	4,2	5,2
10 years repayment period	4,0	7,5	21,0	53,9	15,0	24,8	4,2	5,2

3.3.6 The impact of all previous assumptions and MOHER contribution to QIF, CF, Scholarships and Research fund on MOHER total contribution and financial gap

Scenarios 1, 2, 4, 5, 6 and 10 (see table 15 for definitions of scenarios) have been used to assess MOHER contribution, with the following conclusions (see tables 26 and 27):

- In all the scenarios that have been considered, the main component in MOHER contribution is the vouchers (around 60 percent). In scenarios 1 through 6, the capital fund is second, with a share that varies between 15 and 20 percent of MOHER total contribution. This is linked to the assumption that MOHER funds 10 percent of the capital needs of all institutions, which is a very high hypothesis. The three other components (scholarships, QIF and RF) amount roughly to 20 percent of MOHER contribution. A more balanced allocation is displayed in scenario 10, where MOHER only funds 5 percent of all capital needs and devotes 15 percent of its projected resources (see below) to the quality fund;

- MOHER financial resources have been assumed at US$5 million in 2000/01, with an annual 5 percent increase. This leads to financial gaps varying between US$3 and 16 million in 2010/11, depending on the scenario;
- Except in scenario 6, all institutions show a recurrent surplus and a capital deficit. In 2005/06, the capital deficit is partly compensated by the recurrent surplus, but this is no longer the case in 2010/11, drawing the attention on the need for finding funding sources for development.

Table 26: MOHER Contribution under Various Scenarios

	Vouchers		Scholarships		QIF		CF		RF		Total	MOHER Contrib.	Financial Gap
	US$ Million	%	US$ Million	%	US$ Million	%	US$ Million	%	US$ Million	%	US$ Million	US$ Million	US$ Million
SS1													
2005/06	6,8	60,6	0,5	4,7	0,6	5,7	1,9	17,4	1,28	11,5	11,1	6,4	-4,7
2010/11	10,7	62,1	0,5	3,1	0,8	4,8	3,5	20,6	1,63	9,5	17,2	8,1	-9,0
SS2													
2005/06	6,6	60,8	0,5	4,9	0,6	5,9	1,8	16,6	1,28	11,8	10,8	6,38	-9,21
2010/11	10,0	62,1	0,5	3,3	0,8	5,1	3,1	19,4	1,63	10,1	16,1	8,14	-16,07
SS4													
2005/06	5,1	53,6	0,5	5,6	0,6	6,8	1,9	20,5	1,28	13,5	9,4	6,38	-3,0
2010/11	8,0	55,1	0,5	3,6	0,8	5,6	3,5	24,4	1,63	11,3	14,5	8,14	-6,3
SS5													
2005/06	9,0	67,3	0,5	3,9	0,6	4,8	1,9	14,5	1,28	9,6	13,4	6,38	-7,0
2010/11	14,3	68,6	0,5	2,5	0,8	3,9	3,5	17,1	1,63	7,9	20,8	8,14	-12,5
SS6													
2005/06	6,8	60,6	0,5	4,7	0,6	5,7	1,9	17,4	1,28	11,5	11,1	6,38	-4,7
2010/11	10,7	62,1	0,5	3,1	0,8	4,8	3,5	20,6	1,63	9,5	17,2	8,14	-9,0
SS10													
2005/06	6,8	64,4	0,5	5,0	1,0	9,1	1,0	9,2	1,28	12,2	10,5	6,38	-4,1
2010/11	10,7	67,4	0,5	3,3	1,2	7,7	1,8	11,2	1,63	10,3	15,8	8,14	-7,6

Table 27: Institutions Financial Gap

	Recurrent Financial Gap				Capital Financial Gap			
	Colleges	Al Quds	Other PNA	Non-PNA	Colleges	Al Quds	Other PNA	Non-PNA
SS1								
2005/06	0,72	0,59	1,79	12,8	-0,94	-0,50	-2,81	-13,2
2010/11	1,27	0,86	3,24	15,2	-2,35	-0,29	-4,58	-24,5
SS2								
2005/06	0,72	0,59	1,79	12,5	-0,94	-0,50	-2,81	-13,2
2010/11	1,27	0,88	3,24	13,8	-2,35	-0,29	-4,58	-24,5
SS4								
2005/06	0,72	0,59	1,79	12,8	-0,94	-0,50	-2,81	-13,2
2010/11	1,27	0,86	3,24	15,2	-2,35	-0,29	-4,58	-24,5
SS5								
2005/06	0,72	0,59	1,79	12,8	-0,94	-0,50	-2,81	-13,2
2010/11	1,27	0,86	3,24	15,2	-2,35	-0,29	-4,58	-24,5
SS6								
2005/06	0,41	-0,16	1,04	9,16	-0,94	-0,50	-2,81	-13,2
2010/11	0,75	-0,21	2,27	9,41	-2,35	-0,29	-4,58	-24,5
SS10								
2005/06	0,73	0,71	1,82	13,0	-0,99	-0,52	-2,97	-13,9
2010/11	1,28	1,02	3,28	15,4	-2,48	-0,31	-4,84	-25,9

The following features should, therefore, characterize a feasible financing strategy:

- More controlled admissions in all institutions, with the exception of Al Quds Open University;
- More efficient use of teaching, administrative and service staff, in order to improve efficiency, and reduce normative costs, fees, vouchers, and students private contribution;
- In-depth assessment of demand for HE graduates in the long term, in order to clearly specify the market absorptive capacity and the priority fields of study. It must be recalled that those priority fields must be re-assessed from time to time;
- Fees close to normative costs in non priority fields, since vouchers, scholarships and QIF will not represent a large share of institutions recurrent expenditures, and institutions must reach a balance between their recurrent resources and expenditures in the long term;
- Donors funding a significant share of capital needs, based on controlled enrollments expansion and reasonable space per student norms.

3.3.7 Towards Feasible Scenarios

Feasible scenarios should be built around the main options selected for the 'Standard Scenario' (scenario 1), while allocating less resources to the capital fund and more to the quality improvement fund.

Table 28 shows the scenario's main outcomes, from which the following conclusions may be drawn:

Efficiency and quality

- The overall student:academic staff ratio is estimated to be significantly higher in 2010/11 (38.7) than in 2000/01 (30.3), and the number of academic staff increases much less than enrollments. This results from: (a) a slight increase of the student:academic staff ratio in all universities and colleges, except Al Quds Open University; and (b) a strong increase of this ratio in Al Quds Open University, related to the expansion of its enrollments and resulting economies of scale. Similar comments may be made for administrative and service staff, although ratios increase more than for academic staff in all institutions in this case;

- Additional needs of teaching and administrative space are huge and would have a high cost. Recreational areas have not been considered since no data were available. Existing averages in Palestinian institutions must be carefully assessed and compared with norms in other countries.

Financing and tradeoffs

- Total fees increase very quickly, essentially since from 2001/02, they reach 100 percent of normative costs, a much higher share than in 2000/01 (where actual costs should be used as reference, instead of normative costs). While vouchers represent 62 percent of MOHER's total contribution (under the assumption that PNA funds its financial deficit, see below), they fund only 6.6 percent of total fees. This is obviously a key policy issue which emphasizes the relationship between public and private funding. If fees do not increase, MOHER would have to contribute more in terms of vouchers. In this scenario, MOHER's financial gap remains at a low level (US$9.0 million in 2010/11, on the basis of a 5 percent annual increase of its present contribution);

- Vouchers and loans do help students fund their expenses for fees, but overall they do not cover more than 13.3 percent of total fees in 2010/11. Students' personal contributions still represent a large share of tuition fees, while fees have been raised significantly: student/family contribution is bound to increase substantially because of the higher enrollment ratio in HE and higher fee per student;

- In HE institutions, the balance between recurrent resources and expenditure is rather good because of the level at which fees are set. On the other hand, capital needs remain to be financed, essentially through recurrent budget surpluses, grants and loans.

Under this scenario, table 29 shows that MOHER would devote nearly two thirds of its contribution (with the exception of PNA colleges recurrent funding) to vouchers, and four times more to the Capital Fund than to the Quality Improvement Fund. This might be considered an unbalanced distribution, since MOHER should probably focus more on improving quality than on helping HE institutions fund their expansion.

<u>Main issues and tradeoffs</u>

HE institutions' financial sustainability is mainly dependent on the level of fees in relation to normative costs, since grants will not constitute any more a significant and stable resource, especially for funding recurrent expenses. Unless the PNA and MOHER are able to increase substantially the resources they intend to channel to institutions through vouchers, there is no way to escape a further and significant increase of fees in the future, and this increase will depend on PNA's total contribution. MOHER contribution through the Quality Improvement Fund is not meant to fund institutions' recurrent expenses, limited resources will be channeled to institutions through the fund.

This has significant implications for students and the way they fund fees. Increased fees inevitably mean increased personal students' contribution, which they would fund partly through loans since scholarships are bound to remain a marginal resource for the students. There are limits, however, to the development of the student loan scheme:

- Additional funds to finance the annual increase of loans will be very substantial, essentially because of enrollments expansion, and time lag between loans and repayments;
- The management of a large student loan scheme is complex, and controlling the default rate may prove difficult.

Even if the loan scheme is able to expand quickly, loans will remain a limited source of funding for students considered as a whole.

The amount of MOHER's contribution in the form of vouchers is, therefore, a key policy parameter.

TABLE 28: Standard Scenario: Synthesis of Outcomes

	2000/01	2005/06	2010/11	Last Year/First Year
University enrollments (1000)	72,5	120,0	201,7	278
College enrollments (1000)	2,5	3,4	6,5	260
Total enrollments (1000)	75,0	123,4	208,2	278
Total academic staff	2472	3380	5386	218
Total administrative staff	1360	1398	1881	138
Total service staff	544	578	815	150
Total teaching space (1000 square meters)	123,3	271,1	553,6	449
Total administrative space (1000 square meters)	23,4	62,9	132,1	565
Total fees (US$ million)	41,5	104,7	161,8	390
Total vouchers (US$ million)	0	6,7	10,6	
Vouchers in percent of fees	0	6,4	6,6	
Student fees funding in %				
Vouchers	N.A.	7,1	7,3	
Scholarships	N.A.	0,6	0,4	
Loans	N.A.	4,9	6,0	
Personal contribution	N.A.	87,4	86,3	
Additional funds needed for student loans				
5 year repayment period (US$ million)	N.A.	18,9	52,9	
Repayments/New loans %	N.A.	29,8	34,7	
10 year repayment period (US$ million)	N.A.	19,6	53,7	
Repayments/New loans %	N.A.	15,0	24,9	
Total MOHER contribution (US$ million)		11,1	17,1	
MOHER resources (US$ million)	5,0	6,4	8,1	
MOHER financial gap (US$ million)		-4,7	-9,0	
MOHER recurrent & capital budget, incl. college expenses (US$ million)		15,4	25,0	
Colleges				
Recurrent gap (US$ million)		0,1	0,0	
Capital gap (US$ million)		-0,9	-2,4	
Al Quds open university				
Recurrent gap (US$ million)		0,6	0,9	
Capital gap (US$ million)		-0,5	-0,3	
Other PNA institutions				
Recurrent gap (US$ million)		1,8	3,2	
Capital gap (US$ million)		-2,8	-4,6	
Non PNA institutions				
Recurrent gap (US$ million)		12,8	15,2	
Capital gap (US$ million)		-13,2	-24,5	

**TABLE 29: MOHER Contribution to the Components of the Financing Strategy
in the Standard Scenario (1)**

	2005/06		2010/11	
	Value	%	Value	%
Vouchers	6,7	60,7	10,6	62,2
Scholarships	0,1	0,9	0,5	2,9
Quality Improvement Fund	0,6	5,8	0,8	4,7
Capital Fund	1,9	17,4	3,5	20,6
Research Fund	1,3	11,5	1,6	9,5
Total	11,1	100,0	17,1	100,0

(1) Assuming PNA covers the financial gap

4

Implementing the Financing Strategy

4.1 Administrative and Regulatory Measures

A series of administrative and regulatory measures are needed to supplement the policies outlined above in order to ensure adequate levels of quality and access in the HE sector.

4.1.1 Improving Licensing and Accreditation

- The Ministry will establish an autonomous Commission for Accreditation and Licensing as proposed in The Vision for the Future, October 1999. An autonomous commission would provide a balance between highly centralized/governmental and decentralized/private non-governmental accreditation systems. It would also promote improvement without losing complete supervision of the accreditation process.

- The Ministry, in coordination with the Commission, will develop an effective quality assurance mechanism and a continuous evaluation process. Its purpose is to ensure that licensed institutions and programs of study meet or exceed pre-established criteria of quality, and to assist institutions and programs of study in improving the quality of education they provide.

- The Commission will set up evaluation teams to review and evaluate all existing programs at HE institutions. An evaluation of programs should be carried out simultaneously. Following the evaluation, the MOHER should make the necessary modifications and adopt its accreditation system. The newly adopted system should be made public. To ensure objective and higher standards of the evaluation process, the strategy proposes that international experts be included on the teams.

- Funding of HE institutions will be limited to accredited programs that meet national high priority needs.

4.1.2 Strengthening the HE Management Structure

In consultation with HE institutions, the MOHER will develop a plan to improve institutional management. One important component of such a plan is training in areas such as database management, planning, financial management, assessment, and self-evaluation.

- The MOHER, in coordination with HE institutions, will develop a policy-relevant and reliable information system, data keeping and reporting systems. A joint Task Force from MOHER and higher education institutions will examine existing information systems, decide on required data and set-up networking procedures, including inter- and intra-institutional linkages. The new information system should incorporate other relevant national and regional demographic and economic information.
- The MOHER will develop a plan to provide incentives to attract qualified staff and expertise and to recruit mid-level staff to the MOHER. This entails the introduction of flexible supplemental financial means to the exiting system.

4.2 Taking the Next Steps: Implementing the Strategy

MOHER will take into account that the pace of implementing this strategy might need a transitional period to shift from the traditional financing mechanism. However, it is important that a series of concrete steps be taken in 2002 to demonstrate the viability of the financing strategy that has been suggested in this paper Six steps are required to accomplish such a demonstration:

Determining high priority HRD needs. The COHE needs to conduct its first meeting for the purpose of discussing and determining high priority needs. This step will constitute the cornerstone in the process of implementing the strategy, since it will not only identify the areas of funding, but will also rank these areas in terms of priority. Furthermore, it would be considered as one of the major components of the Computer-Based Budget Tradeoffs Model.

Introduction of proposed administrative measures. A further step is for MOHER to put in place the proposed administrative/regulatory measures namely, accreditation, Higher Education Management Information System (HEMIS), and institutional management university plans. This includes setting-up an autonomous commission for accreditation and licensing, formation of MIS task force, and designing and introducing institutional management plans in coordination with higher education institutions.

Elaboration of HE Funds, design, and implementation plan. One of the most recent accomplishments of MOHER has been the launching of a Student Revolving Loan Fund (SRLF), and is laying the design for HE Development Fund. This has been initiated in 2001.

Generating consensus among decision makers and stakeholders. MOHER is to organize a series of workshops for the purpose of buying in decision makers and stakeholders into the financing strategy.

Training institutional staff in the use of the BTOM. The model may be easily adapted to the institution level and could be used as a tool for helping decision making at this level. This could also be a first step towards building a HEMIS and developing institutional plans.

Carrying out the studies suggested in this paper: This includes utilization of academic and administrative staff, teaching and other spaces and suggesting norms.

4.3 Financing the Implementation of the Strategy

Since the reform of higher education implied by the strategy will have significant consequences on HE internal and external efficiency, quality, financial sustainability and equity, it is urgent to start implementing it as soon as possible. In the present context of financial strains, however, implementing the strategy requires external resources which should be earmarked to components vital for its success, such as:

- Strengthening the capacity of MOHER and HE institutions. This component might include the establishment of the HEMIS, training of MOHER and institutions high level staff, and elaborating the long term human resources development strategy which will guide in the identification of priority fields (US$3.0 million);
- Supporting and expanding the student loan scheme (US$8 million);
- Establishing the Quality improvement fund and contributing to its funding for targeted interventions (US$ 5 million); and
- Supporting the development of a few selected high priority fields of study, as identified by COHE, through the long-term human resources development strategy (US$14 million).

**Table I.1 Palestinian Institutions of Higher Education
By Year of Establishment, Location, and Governance**

HE Institution	Year of Establishment	Location	Governance
Universities			
Hebron University	1971	West Bank	Public/Non Profit
Birzeit University	1972	West Bank	Public/Non Profit
Bethlehem University	1972	West Bank	Public/Non Profit
Al-Najah National University	1977	West Bank	Public/Non-Profit
Islamic University	1978	Gaza	Public/Non-Profit
Palestine Polytechnic University	1978	West Bank	Public/Non-Profit
Al-Quds University	1984	West Bank	Public/Non-Profit
Al-Quds Open University	1991	Gaza & West Bank	PNA
Al-Azhar University	1991	Gaza	PNA
Arab American University	1999	West Bank	Private
University Colleges			
College of Education	1991	Gaza	PNA
College of Educational Sciences/ Women	1992	West Bank	UNRWA
College of Educational Sciences/ Men	1992	West Bank	UNRWA
Ibn Sina Nursing College	1997	West Bank	PNA
Community Colleges			
Palestine Technical College/Khadouri	1930	West Bank	PNA
Palestine Technical College/Arroub	1950	West Bank	PNA
Palestine Technical College/Ramallah	1952	West Bank	PNA
UNRWA Community College/Men	1960	West Bank	UNRWA
UNRWA Community College/Women	1962	West Bank	UNRWA
Al Rawdah Community College	1970	West Bank	Private
Palestine Polytechnic	1978	West Bank	Public/Non-Profit
Al Najah Community College	1980	West Bank	Public/Non-Profit
Al-Ibrahimieh Community College	1983	West Bank	Private
Al Ummeh Community College	1983	West Bank	PNA
Modern Community College	1983	West Bank	Private
College of Science & Technology	1990	Gaza	PNA
Palestine Technical College/Deir Al Balah	1991	Gaza	PNA
Hebron College of Nursing	1994	West Bank	Public/Non-Profit
Caritas Baby Hospital Nursing College	1997	West Bank	Public/Non-Profit
Ina'sh El-Usra Nursing College	1997	West Bank	Public/Non-Profit
Talitha Kumi	2000	West Bank	Public/Non-Profit
Arab Women Union Society Nursing	2000	West Bank	Public/Non-Profit
Makased Nursing College	2000	West Bank	Public/Non-Profit
School of Community Health	2000	West Bank	Public/Non-Profit

Source: MOHER Statistical Year Book 1999/2000

	PNP		AL QUDS		OTHER PNA		TOTAL PNA		PRIVATE		TOTAL		COLLEGE (2000/01)	
Table I.2: University Admissions by Type of University and Field of Study, in % of HSG Graduates (2000/01)			PNA											
	% HSG S	% Tot HSG	% HSG S	% Tot HSG	% HSG S	% Tot HSG	% HSG S	% Tot HSG	% HSG S	% Tot HSG	% HSG S	% Tot HSG	% HSG S	% Tot HSG
Education		0,0461		0,0811		0,0331		0,1142		0,0000		0,1603		0,0033
Humanities		0,0666		0,0000		0,0000		0,0000		0,0000		0,0666		0,0038
Social Sciences		0,0178		0,0505		0,0000		0,0505		0,0000		0,0682		0,0000
Commerce & Economics		0,0576		0,1156		0,0000		0,1156		0,0048		0,1781		0,0141
Law		0,0111		0,0000		0,0000		0,0000		0,0000		0,0111		0,0000
Information Technology		0,0152		0,0267		0,0000		0,0267		0,0000		0,0419		0,0043
Engineering	0,1383	0,0399	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000	0,1383	0,0399	0,0134	0,0039
Medicine	0,0117	0,0034	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000	0,0029	0,0008	0,0146	0,0042	0,0000	0,0000
Medical Professions	0,0604	0,0174	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000	0,0037	0,0011	0,0641	0,0185	0,0000	0,0000
Science	0,1680	0,0485	0,0025	0,0007	0,0000	0,0000	0,0025	0,0007	0,0066	0,0019	0,1772	0,0512	0,0000	0,0000
Total	**0,3784**	**0,3236**	**0,0025**	**0,2746**	**0,0000**	**0,0331**	**0,0025**	**0,3077**	**0,0133**	**0,0087**	**0,3941**	**0,6400**	**0,0134**	**0,0294**

	Humanities			Science			Other		
Table I.3: Bethlehem University									
	Min. Score	Max. Score	Admissions	Min. Score	Max. Score	Admissions	Min. Score	Max. Score	Admissions
Education	67,0	76,2	94	67,2	88,6	41			
Humanities	65,2	94,1	111	65,2	85,8	21			
Commerce & Economics	60,8	96,4	99	60,7	91,6	110	67,6	95,1	9
Medical Professions	88,2	89,9	22	66,1	93,3	35			
Science				65,2	94,5	103			
Total			326			310			9

	Humanities			Science			Other		
Table I.4: Bir Zeit University									
	Min. Score	Max. Score	Admissions	Min. Score	Max. Score	Admissions	Min. Score	Max. Score	Admissions
Humanities	67,4	95,7	385	67,8	84	42	NA	NA	20
Commerce & Economics	77,3	97,9	140	82,8	96,2	53	NA	NA	19
Engineering				85,7	99,7	310	NA	NA	40
Science				72,5	97,4	284	NA	NA	35
Total			525			689			114

	Humanities			Science			Other		
Table I.5: Islamic University									
	Min. Score	Max. Score	Admissions	Min. Score	Max. Score	Admissions	Min. Score	Max. Score	Admissions
Education	61,3	95,0	346	60,0	97,9	252	61,3	62,5	1
Humanities	60,3	93,8	277	61,5	92,7	34	61,1	68,3	1
Social Sciences	61,3	94,1	283	60,0	99,3	111	60,8	83,5	5
Commerce & Economics	60,0	96,6	234	66,0	95,6	267	62,5	89,5	12
Engineering				79,3	99,9	386			
Medical Professions				63,4	93,5	44			
Science				73,0	99,4	556			
Total			1140			1650			19

TABLE I.6: GDP and PNA Budget

	1995	1996	1997	1998	1999
GDP (US$ millions)	3,226.4	3,610.8	3,877.6	4,250.7	4,493.5
GNP (US$ millions)	3,822.4	4,179.2	4,558.5	5,144.1	5,534.1
GDP per capita (US$)	1,459.8	1,537.4	1,499.5	1,547.7	1,575.0
PNA budget (US$ millions)	560.0	800.0	850.0	750.0	900.0
PNA budget as a percent of GDP	17.4	22.2	21.9	17.6	20.0

Source: Ministry of Higher Education and Scientific Research (MOHER), Ministry of Finance (MOF), and the Palestinian Monetary Authority (PMA)

Table I.7: PNA Contribution to Education Expenditure

	1995	1996	1997	1998	1999
Spending on all levels of Education					
All education spending (Public & Private in US$ millions)	71.8	213.8	219.8	245.9	239.7
PNA education spending	46.3	159.6	161.6	181.8	173.4
As % of all education spending	N.A	74.6	73.5	74.0	72.3
As % of PNA budget	N.A	20.0	19.0	24.2	19.2

Source: Ministry of Higher Education and Scientific Research (MOHER), Ministry of Finance (MOF), and the Palestinian Monetary Authority (PMA)

Table I.8: Higher Education Expenditure
As a Share of GDP and Total Education Expenditure

	1995	1996	1997	1998	1999
Higher education spending					
Total higher education spending (public & private, US$ million)	N.A	62.5	65.6	73.6	71.7
As % of GDP	N.A	1.7	1.7	1.7	1.6
As % of GNP	N.A	1.5	1.4	1.4	1.3
As % of all education spending	N.A	29.2	29.7	30.0	30.0

Source: Ministry of Higher Education and Scientific Research (MOHER), Ministry of Finance (MOF), and the Palestinian Monetary Authority (PMA)

TABLE I.9: Student/Teacher Ratio
By Nature of Institution and Field of Study (2000/01)

	PNP Universities	PNA Universities		Private Universities	Colleges
		Al Quds	Other		
Education	45,7	64,4	27,7		20,7
Humanities	17,6				15,6
Social Sciences	21,4	289,3			
Commerce & Economics	43,0	287,7		80,0	31,9
Law	46,9				
Information Technology	8,9	102,7			13,7
Engineering	20,4				9,9
Medicine	10,6			21,0	
Medical Professions	19,0			18,0	14,9
Science	13,6	33,5		3,8	
Total	21,9	123,7	27,7	12,8	18,4

TABLE I.10: Student/Teacher Ratio
By Nature of Institution and Field of Study (2010/11)

	PNP	PNA			PRIVATE	TOTAL
		AL QUDS	OTHER	TOTAL PNA		
Education	35,0	300,0	35,0		35,0	
Humanities	25,0	300,0	25,0		25,0	
Social Sciences	25,0	300,0	25,0		25,0	
Commerce & Economics	35,0	300,0	35,0		35,0	
Law	35,0	300,0	35,0		35,0	
Information Technology	20,0	300,0	20,0		20,0	
Engineering	20,0	300,0	20,0		20,0	
Medicine	15,0	300,0	15,0		15,0	
Medical Professions	20,0	300,0	20,0		20,0	
Science	20,0	300,0	20,0		20,0	

TABLE I.11: Student /Administrative Staff Ratio (2000/01)

	PNP Universities	PNA Universities		Private Universities	Colleges
		Al Quds	Other		
Education	20,0	81,9	52,6		16,5
Humanities	121,6				18,7
Social Sciences	96,6	81,9			
Commerce & Economics	305,5	81,9		80,0	32,9
Law	175,8				
Information Technology	13,6	81,9			13,7
Engineering	48,2				12,9
Medicine	27,1			7,0	
Medical Professions	56,5			9,0	
Science	39,9	81,9		10,7	
Total	51,5	81,9	52,6	12,2	21,5

TABLE I.12: Student/Administrative Staff Ratio (2010/11)

	PNP	PNA			PRIVATE	TOTAL
		AL QUDS	OTHER	TOTAL PNA		
Education	75,0	100,0	75,0		75,0	
Humanities	150,0	100,0	150,0		150,0	
Social Sciences	120,0	100,0	120,0		120,0	
Commerce & Economics	150,0	100,0	150,0		150,0	
Law	150,0	100,0	150,0		150,0	
Information Technology	100,0	100,0	100,0		100,0	
Engineering	75,0	100,0	75,0		75,0	
Medicine	50,0	100,0	50,0		50,0	
Medical Professions	75,0	100,0	75,0		75,0	
Science	75,0	100,0	75,0		75,0	

Table II.1. Number of Students per 100,000 Inhabitants, and Gross Enrollment Rates by Region (1995)

World Total	N0. of Students/100,000 Inhabitants	Gross Enrollment Rates
World Total	1434	16.2
More developed regions	4110	59.6
North America	5544	84.0
Europe	3285	47.8
Countries in transition	2602	34.2
Less developed countries	824	8.8
Arab States	1227	12.5
Sub-Saharan Africa	328	3.5
Latin America/Caribbean	1714	17.3
East Asia	800	8.9
South Asia	610	6.5
Least developed countries	296	3.2
West Bank/Gaza	**1317**	**10.2**

Source: UNESCO, World Conference on Higher Education, 1995

Table II.2 Expenditure on HE and Public Expenditure on HE

OECD Countries	Expenditure on HE as % of GDP	Expenditure on HE as % of expenditure on all levels of education	Public expenditure on HE as % of GDP	Public expenditure on HE as % of total public expenditure
Country mean	1.33	26.3	1.3	3.0
Australia	1.59	29.5	1.2	3.6
Germany	1.04	22.0	1.1	2.3
Italy	0.84	20.6	0.8	1.6
Turkey	0.84	26.4	0.8	N.A
United Kingdom	1.11	24.6	1.1	2.6
United States	2.29	37.9	1.3	N.A
West Bank & Gaza	1.7	29.9	0.3	1.9

Source: Education at a Glance, 1997

Table II.3: Student: Staff Ratio by Region (1995)

Region	Student/Staff Ratio
WORLD TOTAL	14
More developed countries	14
North America	17
Europe	13
Countries in transition	11
Less developed countries	14
Sub-Saharan Africa	16
Arab States	19
Latin America/Caribbean	11
East Asia	15
South Asia	16
Least developed countries	18
West Bank/Gaza	27

Source: UNESCO, World Conference on Higher Education, 1995

Table II.4. Percentage of Female Students by Region (1995)

Region	Percent Female Students
WORLD TOTAL	47
More developed countries	52
North America	55
Europe	51
Countries in transition	54
Less developed countries	40
Sub-Saharan Africa	41
Arab States	35
Latin America/Caribbean	49
East Asia	40
South Asia	34
Least developed countries	27
West Bank/Gaza	43

Source: UNESCO, World Conference on Higher Education, 1995