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(NCHRD)**

Community Colleges Assessment Study

Presented

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Sustaining and Extending Technical Vocational
Education and Training (SETVET)

SUSTAINING AND EXTENDING TECHNICAL AND VOCATIONAL EDUCATION AND TRAINING (SETVET)

Community Colleges Assessment Study Final Report

Presented by the Joint Canadian-Jordanian Study Team

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EXECUTIVE SUMMARY

The aim of this study is to assess the effectiveness of the community colleges in terms of their success in providing programs that meet labour market needs. The study directly supports the monitoring and reporting role of Al Balqa' University (BAU), which was established in part to help make the community college system more responsive to labour market needs. The study was undertaken as a part of the Sustaining and Extending Technical and Vocational Education and Training (SETVET) project.

The focus of the study was the preparation of students by the colleges for the labour market through the provision of a two-year associate degree (diploma) education in various specializations. The performance of the public and private colleges in preparing students for the labour market was assessed against the five criteria of: impact, effectiveness, efficiency, relevance and sustainability.

To assess the performance of the colleges, population, labour market, and education information available from the Department of Statistics, BAU and previous studies was reviewed. Most importantly, new information was gathered from interviews with 24 of the 45 college Deans, from interviews with a sample of 44 Jordanian employers, as well as from survey forms filled out by 745 college graduates. The information collection and analysis led to the production of four reports that provided the basic ingredients for this final report. The four reports are:

- Community Colleges Assessment Study: Labour Market Review;
- Community Colleges Assessment Study: Summary Report on the College-Based Interviews;
- Community Colleges Assessment Study: Summary Report on the Employer-Based Interviews; and,
- Community Colleges Assessment Study: Summary Report on the Graduate Tracer Survey.

Prior to writing the final report, roundtable sessions were held with small groups of college Deans, employers and college graduates.

Study findings were derived that address a number of questions posed under the five assessment criteria. The overall conclusions regarding the performance of the colleges as assessed against the five criteria are as follows.

Impact:

It cannot be concluded that the colleges are providing a sufficient yearly supply of entrants to the labour market to adequately fill all of the technical, managerial, and other positions requiring the kinds of skills normally obtained in a two-year college program. Skill shortages exist in the midst of high unemployment. In the field of nursing assistance and some of the other paramedical specializations, the supply of graduates has not kept pace with the demand for workers, even though the total number of youth graduating from the colleges is adequate.

The impact of the colleges is diminished because of the tenuous connection of college program planning to the skill demands of the workplace. College graduates are found to have good theoretical knowledge but inadequate practical skills in many fields. In some cases, employers seem to be just as much if not more satisfied to hire job applicants with a university education

Sustaining and Extending Technical Vocational Education and Training (SETVET)

(often without specific skill preparation for the job) than to hire those with a two-year college diploma.

On the other hand, a number of the colleges were observed to have a vital role in the provision of skilled labour. Graduates from some of the colleges that specialize in engineering technology are in high demand in the labour market, and the programs at those colleges receive strong support from employers.

Effectiveness:

It is difficult to conclude that the colleges are effectively fulfilling their mandate of preparing students for the labour market because:

- Most college planning focuses on the continuation of existing or creation of new programs/ specializations for which there is sufficient student interest to ensure adequate enrolments – it is not based on ensuring identified labour market skill needs are met;
- Colleges all too willingly continue to offer programs and enroll large numbers of students in areas where the two-year diploma will not be sufficient for job entry (e.g. childhood education; pharmaceuticals).
- The colleges do not, in the main, actively seek employer input into their programs and curricula, and they lack any real intelligence on the labour market at the national, regional or local levels; and,
- Connections between the colleges and employers generally exist only informally – formal arrangements are few and far between.

However, the colleges do provide students with an education that meets high academic standards.

Efficiency:

The colleges are really not able to match the number and fields of study of their graduates with labour market requirements because they have no means of formally identifying those requirements, on a national, regional or local level. Moreover, college efficiency suffers because the public colleges compete among themselves, and the private colleges compete with the public ones for student enrolments. The result of this competition is a significant level of duplication in programs/specializations offered, as well as the continuation of programs/ specializations that students want to take for other than labour market preparation reasons.

Relevance:

For the roughly one-quarter of college students who are bridging to a university program, their college experiences are relevant to their goals because a significant proportion eventually are admitted to a university. But less than half of those graduating from the two-year diploma programs found that their college studies were directly related to the job requirements. Employers tended to support this finding. Employers also were emphatic in concluding that many of the college programs are focused too narrowly, and often provide training in out-of-date procedures on old equipment. There is too much theory and not enough practice. This is confirmed by the employers' and graduates' views of the field training, which is sometimes seen as not all that well related to real-life job tasks.

Sustainability:

Because the colleges have continually failed to meet employer skill needs in some economic activity areas, the confidence of business and industry in the college system has eroded. At the same time, continued competition among the colleges for a greater share of student enrolments has led to the maintenance of enrolment levels in programs that students and their families want but oftentimes have little pay-off in terms of graduate employment. Up to a quarter of the colleges' students take university bridging or bachelor degree programs that overlap the activities of the universities. This situation provides a strong rationale for reducing the funding levels of the colleges.

Overall Conclusions

The main conclusion of this study is that the Government of Jordan, in order to have the colleges fulfill their mandate as viable contributors to the labour market preparation of Jordanian youth, will have to take steps very soon to clearly align the college programs with the skill needs and job opportunities in the labour market. Those steps have to include changes in the way the college program offerings are planned, in the criteria for the staffing of teaching and administrative positions in the colleges, in the accountability structure of the colleges, in the types of information collected for planning and accountability, and in the methods of information collection that are used.

Recommendations

Four specific recommendations are made. They are, that the Government of Jordan:

- Establish stakeholder councils for the college system;
- Rationalize the college program and specialization offerings to reduce duplication;
- Reconsider the policy on college faculty qualifications with the aim of having teachers who are skilled and experienced in the fields of training provided by the colleges; and,
- Establish a permanent graduate follow up information system.

Conclusions and recommendations are nice but produce little unless the target audiences are identified. Thus, criticizing the college Deans based on the study findings is not appropriate. That will not lead to change. The Deans do not have the authority under the current centralized system to make the kinds of changes recommended. However, the BAU does have that authority and responsibility. It is believed that the BAU could implement the first recommendation, to establish stakeholder councils, within its current authority and mandate. The BAU will need to collaborate with the Ministry of Planning to ensure the implementation of the second recommendation on college program rationalization integrates well with other Government initiatives related to labour force supply and demand. Action on the third recommendation, to change the existing policy on the college faculty qualifications, will require the approval of the Ministry of Higher Education. And the BAU will need the support and assistance of the NCHRD and DOS to establish a permanent graduate follow up information system that includes a means to validate graduate survey responses using labour force and demographic data.

This study was undertaken to complement the White Paper on post-secondary education and training that was sponsored by the World Bank. While the White Paper focused largely on the structural changes needed to improve post-secondary education in Jordan, institutional changes are recommended in this study.

Sustaining and Extending Technical Vocational
Education and Training (SETVET)

TABLE OF CONTENTS

	Page Number
1. Introduction	1
2. The Methodology.....	2
2.1 Secondary Data Collection and Analysis: The Labour Market Review	3
2.2 Primary Data Collection and Analysis	4
2.2.1 College-Based Interviews	4
2.2.2 Employer-Based Interviews	5
2.2.3 Graduate Tracer Survey	6
2.3 Validation of the Findings.....	7
3. Assessment of the Community Colleges on the Performance Assessment Criteria.....	8
3.1 Performance Assessment Criterion of Impact.....	8
3.2 Performance Assessment Criterion of Effectiveness.....	12
3.3 Performance Assessment Criterion of Efficiency.....	15
3.4 Performance Assessment Criterion of Relevance	18
3.5 Performance Assessment Criterion of Sustainability	20
4. Findings of the Community Colleges Assessment Study on Key Issues.....	22
4.1 Labour Market Opportunities for Graduates	22
4.2 Mandate of the Community Colleges	23
4.3 Community College Programs	23
4.4 Community College Teachers.....	23
4.5 Comprehensive Examinations	24
4.6 Connections Between Colleges and Employers.....	24
4.7 Career Planning and Labour Market Services.....	24
4.8 Organizational Obstacles to Meeting Labour Market Skill Requirements	25
5. Putting the Findings to Work: Suggestions and Recommendations.....	25
5.1 Establish Stakeholder Councils.....	25
5.2 Refocus the BAU Strategic Plan	26
5.3 Reconsider the Policy on College Faculty Qualifications.....	26
5.4 Establish a Permanent Graduate Follow-Up Information System.....	27
6. Concluding Remarks	27

Annexes:

- A. Community Colleges Assessment Study: Labour Market Review
- B. Community Colleges Performance Assessment Study Methodology Report

Sustaining and Extending Technical Vocational
Education and Training (SETVET)

- C. Community Colleges Assessment Study: Summary Report on the College-Based Interviews
D. Community Colleges Assessment Study: Summary Report on the Employer-Based Interviews
E. Community Colleges Assessment Study: Summary Report on the Graduate Tracer Survey

LIST OF TABLES

	Page No.
Table 3.1 Summary of Findings Relative to the Performance Assessment Criteria Study Questions: Criterion of Impact	8
Table 3.2 Summary of Findings Relative to the Performance Assessment Criteria Study Questions: Criterion of Effectiveness	11
Table 3.3 Summary of Findings Relative to the Performance Assessment Criteria Study Questions: Criterion of Efficiency	14
Table 3.4 Summary of Findings Relative to the Performance Assessment Criteria Study Questions: Criterion of Relevance	17
Table 3.5 Summary of Findings Relative to the Performance Assessment Criteria Study Questions: Criterion of Sustainability	19

Sustaining and Extending Technical Vocational
Education and Training (SETVET)

1. INTRODUCTION

The Sustaining and Extending Technical and Vocational Education and Training (SETVET) project is being funded by the Canadian International Development Agency (CIDA). The project aims to support reform and further development of the Jordanian Training and Vocational Education system (TVET).

The community college system in Jordan is one area in which reform is taking place. Al Balqa' Applied University (BAU) was established in 1996 in an effort to make the community college system more responsive to labour market needs. BAU is directly responsible for all 15 public community colleges, and also accredits all private colleges. BAU operationally monitors and reports on the organization and the effectiveness of the Jordanian college system. This study was regarded as directly supporting the BAU monitoring and reporting role, as the chief outcome of the study was aimed at establishing the effectiveness of the colleges in terms of their performance as measured by the extent to which the colleges are providing programs that meet labour market needs.

The performance of the community colleges was assessed against five criteria: impact, effectiveness, efficiency, relevance and sustainability. Secondary sources of information that underpin the study included BAU administrative data, previous Al Manar education and training studies, and Department of Statistics labour market data. Primary data collection involved interviews with community college staff, interviews with public and private sector employers, and a survey of college graduates.

Four reports were provided to the Community Colleges Assessment Study Steering Committee. They are included as annexes to this report. The majority of information contained in those reports, particularly the statistical information, is not repeated in this final report. This report is intended to provide a synthesis of the information gathered and findings derived from the previous study steps. The four reports annexed to this report are:

- Community Colleges Assessment Study: Labour Market Review;
- Community Colleges Assessment Study: Summary Report on the College-Based Interviews;
- Community Colleges Assessment Study: Summary Report on the Employer-Based Interviews; and,
- Community Colleges Assessment Study: Summary Report on the Graduate Tracer Survey.

Two presentations were made to the Steering Committee in person by the Canadian Team Lead. The first was a progress review, provided upon completion of the college-based interviews. The second presentation was given at the end of the study, prior to the drafting of the final report. Just before making the presentation to the Steering Committee on the highlights of findings and suggestions or recommendations for the future, validation sessions (roundtables) were held with college Deans/Vice Deans, employer representatives and a few college graduates.

The findings from this study are presented in two formats. In the first format, the main findings are offered in response to the individual study questions posed in the initial Community Colleges Assessment Study Performance Assessment Criteria that was appended to the Methodology

Report. Findings are then presented under a number of headings that reflect important issues for action that emerged during the study.

Finally, suggestions and recommendations for future action by the Steering Committee, Al Balqa' University (BAU), and the relevant ministries (Planning, Education and Higher Education) are presented. The suggestions/recommendations were derived from the variety of "solutions" offered by the many interview and survey participants.

2. THE METHODOLOGY

The focus of the Community Colleges Performance Assessment Study was the preparation of students for the labour market through the provision of a two-year associate degree (diploma) education in various specializations. Assessment of the success of the colleges in preparing students for further studies at the university degree level, which is also part of the official college mandate, did not form part of this study.

Five Performance Assessment Criteria (PAC) typically used in CIDA-funded projects to guide assessments were applied in this study. Specifically, performance was ascertained in terms of:

- Impact: The degree to which the colleges seem to be producing the number of graduates required to meet current and future labour market demand, the extent to which they are perceived to have an overall positive impact on industry, and the extent to which the colleges are perceived to have an overall positive impact on the lives of students;
- Effectiveness: The degree to which the colleges are responding to their role (in terms of mission, program/curriculum development, resource allocation, student recruitment, enrolment and graduation throughput) in the preparation of students for the labour market, the extent to which they understand and are responsive to the changing human resource needs of employers, and the extent to which the colleges are meeting the perceived educational needs of students for labour market entry;
- Efficiency: The degree to which the colleges are satisfying labour market demand (in terms of numbers and skill sets required) relative to their expected level of labour market supply and relative to the alternative sources of supply (labour market entry directly from secondary school, from university programs and from other technical/vocational training providers), the extent to which the colleges are making use of key mechanisms (such as national and regional labour market information, and employer advisory committees or councils) to identify demand, and the degree of coordination with all educational and labour market stakeholders in determining the size and scope of the college system;
- Relevance: The degree to which students perceive the college programs to have met their educational and labour market objectives, the degree to which employers perceive the college programs as providing students with the knowledge, skills and attitudes required in their workplace, and the extent to which the college programs reflect the strategies, policies and priorities established by the National TVET Council; and,
- Sustainability: The degree to which the current college system can and should be sustained or expanded relative to the current and forecasted educational and labour market conditions, and in terms of the numbers of public and private institutions, the numbers and types of program specializations offered, the numbers of enrolments and graduations, and the global costs involved.

Sustaining and Extending Technical Vocational Education and Training (SETVET)

To address all of the issues under the five Performance Assessment Criteria, both qualitative and quantitative information was gathered. Three types of information sources were used.

- Administrative data - information related to the performance assessment that was found in administrative files and databases (e.g. BAU enrolments, graduation and comprehensive exam results for the years 2000 to 2004);
- Primary data – information collected through interviews and surveys with the three stakeholder groups (graduates, college staff, employers); and,
- Secondary data - data that had been collected for other purposes, but which applied in the context of the present study (e.g. Department of Statistics population and labour force data for 2002-2004, and the World Bank sponsored Abrahart Report on the Jordanian community colleges).

The study was undertaken in six stages:

- Study design and instrument development (October – November 2004);
- Labour Market Review (November 2004 – January 2005);
- College-based interviews (November – December 2004);
- Employer-based interviews (January – March 2005);
- Graduate tracer survey (April – May 2005); and,
- Roundtables and summary presentation (May – June 2005).

The primary and secondary data collection and analysis processes are discussed in the following sub-sections.

2.1 Secondary Data Collection and Analysis: The Labour Market Review

The Labour Market Review began with an examination of the recent growth of Gross Domestic Product (GDP) in Jordan. The growth in GDP affects the demand for labour and hence the level of employment and unemployment rates. The structure of employment by industrial sector was then examined. This helped identify the importance of the various sectors in generating jobs. Employment in an industrial sector is partly determined by the technology used in the sector and is therefore an important determinant of employment in different occupations. It also provides an indicator of the demand for workers in different occupations, and hence for the different types of skills and knowledge required by the economy.

On the supply side, population growth and labour force participation rates were investigated, as they provide an indication of the growth in the numbers of people looking for jobs, and hence evidence of labour market pressures. And a comparison of unemployment rates and earnings for college graduates and other graduates was undertaken to obtain a rough indicator of the success of colleges in meeting labour market demands.

No single source of data of the type required for a labour market review of Jordan was found. Data were available from various websites (including the websites maintained by Al Manar, the Department of Statistics [DOS], the National Center for Human Resources Development [NCHRD], and the National Information System), but none of those sources provided the comprehensive and consistent time-series data needed for a labour market review. Moreover, the English versions of those websites included little or no information on the definitions of different terms, and on the methods used for data collection. They did not generally include

links or references to other sites that may have included needed information (but it should be noted that this information may have been available in the Arabic versions of the websites).

It was therefore difficult to obtain some of the data needed for the labour market review and to determine the reliability of the data available. As a result, the data required for the analysis had sometimes to be obtained from a variety of sources. Moreover, the data used in the analysis often covered different time periods.

A hard copy of a report on the Employment and Unemployment Survey for 2004 issued by the Department of Statistics (DOS) was used as a major source of data for the review. The DOS survey referred to a particular point in time (May 2004), so that the estimates may have included the effects of variation within the year (such as seasonal variation). This was borne in mind in interpreting these data. Further, the DOS did provide a limited set of employment and unemployment data, produced specifically for this assessment study that covered the periods of 2002 to 2004.

A number of other publications and reports were used as sources of data for the review. They included reports by the UNDP and the World Bank, as well as a more recent report on unemployment released by the NCHRD.

2.2 Primary Data Collection and Analysis

2.2.1 College-Based Interviews

College Deans/Vice Deans were interviewed by the two Canadian Team members with invaluable assistance from the Jordanian Team Coordinator and/or a Jordanian Team Member. The Community College Interview Form was used to guide all of the interviews. That form was developed from the study questions presented in the initial Methodology Report.

A total of 24 of the 45 community colleges in Jordan were involved in the interviews. The college sample was selected by Study Team to include enough of the colleges to account for up to 90% of student enrolments as well as a good representation of colleges offering programs and specializations in a variety of areas. A good representation of the types of colleges was achieved in the sample. Interviews were conducted at 11 public, 11 private, one UNRWA, and one other government department college (Ministry of Health).

College Deans/Vice Deans were asked about: enrolment and graduation trends; program planning and changes; their relationships with BAU, other colleges, and employers; program delivery; their accountability for results; and, the challenges they face. Responses to the questions were both qualitative (comments, suggestions) and quantitative (ratings on a scale). Other than enrolment and graduation numbers, the information provided in interviews was not validated from another source and was accepted as the "perception of the colleges". Enrolment and graduate figures were obtained from BAU and were analyzed along with other interview responses.

The analysis of the college interview information led to the presentation in the College Interview Report of discussion and the derivation of some initial findings in the following areas:

- A perceived imbalance in the aims/mandate of the colleges;

Sustaining and Extending Technical Vocational Education and Training (SETVET)

- Unwanted shifts in post secondary education enrolment patterns;
- Competition among the colleges for students;
- The promise and problems of a central administration of the colleges through BAU;
- The labour market orientation of the colleges, or lack thereof;
- A need for better labour market information, guidance and counselling services in Jordan; and,
- The issue of the gender make up in the college programs and its impact on post graduation employment.

2.2.2 Employer-Based Interviews

The Employer Interview Form was developed to guide the interviews, which were initially conducted by a joint Canadian-Jordanian team, and later by Jordanian Team members only. The questions included in the interview form were derived from the study questions presented in the Methodology Report.

The aim was to interview a sample of employers from the 15 areas of economic activity in Jordan. The Study Team compiled lengthy lists of employers in all economic activity areas. The numbers of employers from the various areas targeted for the interviews were based on the most recent employment data for the Jordanian economy. These data showed that half of employment was concentrated in industry (Manufacturing; Construction; Electricity & Water; and Mining & Quarrying) and half in the service sector (Wholesale & Retail Trade; Transport, Storage & Communications; Public Administration; and Education.

Although a large and representative group of employers was contacted by the Jordanian Team members, in the end employers from 11 out of the 15 economic activity areas agreed to be included in the sample with interviews successfully concluded at 44 different employer organizations. The employer representation can be characterized as follows:

- Some 34% of the sample represented Education and Public Administration (these areas employ over 28% of the Jordanian workforce) and more than 38% of the sample represented Manufacturing, Electricity, Gas and Water Supply (with these areas employing up to 20% of the workforce);
- More than 86% of the sample organizations had been in operation for more than nine years;
- Over three-quarters of the employer sample had more than 50 employees, with 36% having more than 500 employees; and,
- Over 85% had done some hiring within 12 months of the interviews.

The sample was considered to be diverse enough to be informative about the employers' perceived impact of the community colleges programs on Jordanian employment and job performance. However, the sample turned out not to be as representative of the various economic activity areas as originally planned. The findings from the employer interviews become truly useful when viewed in the context of the findings from the community college interviews and the graduate tracer study results.

Employers were asked about: the incidence of skill shortages; their methods for recruiting college graduates; the match between a student's choice of college program/specialization and their suitability for employment in relevant jobs; their employment of persons from specific population groups (e.g. women, disabled); their perceptions of the quality of the college programs; and the extent of their connections with the colleges.

Both qualitative information (comments, suggestions) and quantitative information (ratings on different scales) were obtained from employers. The analysis of the quantitative information provided an indication of the consistency of specific views held by employers. It also provided a means to determine if the employers' labour market needs, and perceptions of how well the colleges were meeting those needs, differed greatly according to the employers' area of economic activity. The qualitative analysis led to the summation of employer perceptions in several issue areas:

- The existence side-by-side of unfilled jobs requiring specific skills and an over supply of college and university graduates in certain skill areas;
- The imbalance in college emphasis on the theoretical aspects of a specialization rather than on the practical aspects;
- The qualifications of college teachers in terms of their technical, professional and practical employment experience; and,
- The lack of available means for the employers to connect with the colleges in order to provide accurate information on the employers' labour market/skill needs and feedback on their experiences in employing college graduates.

2.2.3 Graduate Tracer Survey

The GTS form was developed from the study questions shown in the Methodology Report. It was designed for the Canadian-Jordanian Study Team to use in gathering detailed community college graduation follow-up information especially focused on labour market outcomes. The survey form was given to community college graduates in groups assembled for this purpose at a number of colleges. Recent graduates (2003, 2004, and 2005) were invited to fill out the survey forms at pre-arranged sessions. However, those who completed their college studies even several years ago (before 2003) were accepted into the sample.

Graduates were invited to the sessions by the colleges. College Deans were provided by the Jordanian Team Lead with an information letter regarding the study to use in explaining to graduates the purpose of the study and the potential use of its results. Other than establishing the locations where the survey sessions were held, the Study Team had little control over graduate participation. It is uncertain what methods were used by the colleges to recruit the volunteers and what information was actually provided to the potential respondents in order to get their cooperation. It was observed by the Study Team during the sessions, and confirmed by the GTS participants in their survey responses, that unemployed graduates were more likely to come to the sessions than employed graduates.

A total sample size of 1,500 graduates was the initial target. The Study Team succeeded in obtaining valid results from 745 respondents. This represents approximately 2% of the

Sustaining and Extending Technical Vocational
Education and Training (SETVET)

graduate population for the years 2003-2005. A 5% sample size would have provided a higher level of comfort in generalizing the findings to all recent college graduates.

A fair representation of the graduate population was obtained for the sample in terms of the number of college specializations of the graduates, the geographical locations of graduates, the year of graduation, and the gender and age make up. Graduate employment status was not fairly represented in the sample.

The GTS form provided for the collection of both qualitative information and quantitative information. The number of comments and suggestions provided by the participants on the forms was so small that analysis and presentation of qualitative results were not possible. Analysis was therefore focused on the quantitative (scaled) responses.

On the form, graduates were asked about: their reasons for going to a community college; the extent to which their goals were met through college attendance; their job search activities and employment status after graduation; the relevance to employment of their college education and training in their specialization; their perception of the quality of their college education; and, the adequacy of college services (e.g. computer services; academic advising).

The quantitative analysis of survey responses enabled the Study Team to:

- Establish the main reasons graduates attended college;
- Gain some insight into the extent a college education is perceived by the graduates to actually prepare them for employment; and,
- Determine the graduates' views on the quality of education and services provided by the colleges.

It was also possible in the analysis to explore the possible relationships of gender, year of graduation, and area of specialization with employment status after graduation, and perceptions of the graduates of the quality of education and services they received from the colleges.

2.3 Validation of the Findings

Preliminary findings from the four reports provided to the study Steering Committee (contained at annexes A to D) were compiled into a three-page Summary of Findings. The summary was provided to small groups of community college stakeholders for purposes of validation, and to solicit any final ideas on a proposed "way ahead" for the Jordanian colleges. Three types of validation sessions were held:

- Two sessions with college Deans/Vice Deans comprising a total of 12 participants;
- Two sessions with employer representatives comprising a total of four participants; and,
- One session with graduates comprising a total of two participants.

The turn out of participants was disappointing for all three types of sessions. No new ideas were offered, but this may have been the result of having such a low turn out. Those who participated in the sessions expressed the view that the findings contained in the Summary seemed reasonable, for the most part.

3. ASSESSMENT OF THE COMMUNITY COLLEGES ON THE PERFORMANCE ASSESSMENT CRITERIA

In the following sub-sections, the findings first presented in each of the four major study reports (contained at annexes A to D) are synthesized and compiled into an integrated set of "findings". For ease of reading, references to the specific pages, sections and paragraphs of the four reports from which the findings were derived are not presented. There is one sub-section and table for each of the five Performance Assessment Criteria.

3.1 Performance Assessment Criterion of Impact

TABLE 3.1
Summary of Findings Relative to the Performance Assessment Criteria Study Questions
Criterion of Impact

Performance Assessment Criterion of IMPACT and the Relevant Study Questions	Findings from the Study
<p>Impact</p> <p><i>The degree to which the colleges seem to be producing the number of graduates required to meet current and future labour market demand</i></p> <ul style="list-style-type: none"> How do workers with different levels of education, and of different genders do in the labour market with respect to: <ul style="list-style-type: none"> % not economically active % unemployed % employed? 	<ul style="list-style-type: none"> Labour force participation rates vary markedly by gender and level of education. <ul style="list-style-type: none"> The refined participation rate (i.e., the total labour force expressed as a percentage of the population aged 15 years and over) <i>fell</i> for both males and females between 2000 and 2003. The low participation rate is believed to be due to the age structure of the population (increasing proportion of the population under 15 and over 64), the high number of students, the low female participation in the labour market, and the retirement at an early age in the public sector. Participation rates were lower for females than for males at each level of education. Females with a college diploma have a lower participation rate than males with a diploma. And the participation rate for females with a college diploma is much lower than for those with a degree. Among the reasons for these differences are that women are sometimes discouraged from working because of cultural factors, and women with little education find it easier to work in the informal rather than in the formal sector. Unemployment rates vary considerably by level of education and gender. <ul style="list-style-type: none"> The unemployment rate for males in 2004 was lower than that for females except for those classified as illiterate. Unemployment in 2004 among college graduates was lower than among those with less than secondary education and the SAME as those with a degree. The unemployment rate for females was highest for those with a college diploma. One reason for the higher female unemployment rate may have been that females graduate in many program areas where job demand is low or has become non-existent (e.g. child education). Many females attend college for other than labour market preparation reasons.

Sustaining and Extending Technical Vocational Education and Training (SETVET)

Performance Assessment Criterion of IMPACT and the Relevant Study Questions	Findings from the Study
<ul style="list-style-type: none"> How do youth (15-24 year olds) compare to workers in other age categories (taking gender differences into account) with respect to: <ul style="list-style-type: none"> % employed % employed by educational level % employed by economic activity area % employed by occupation? What are the differences in monthly earnings of workers with respect to: <ul style="list-style-type: none"> age gender educational level occupation economic activity area? What are the colleges' graduation rates by program area? Is it possible to match the college program areas to the different occupations and economic activity areas? What are the trends in college enrolments by program area? 	<ul style="list-style-type: none"> The highest unemployment in 2004 was among those 20-24 years of age (at 38.8% of all unemployed persons). And 50.1% of females 20-24 were unemployed compared to 36.3% of males in the same age group. <p>The educational specialization of graduates affects the economic sectors and occupations in which they can find jobs</p> <ul style="list-style-type: none"> In 2004, a higher proportion of females than males had specialized in Teacher Training and Educational Sciences and Humanities at both the university and college levels. By contrast, a higher proportion of males than females had specialized in Engineering. Employment in the public sector, including education, has been declining, and this sector typically has a very high female representation. This is one factor contributing to high unemployment among females. <ul style="list-style-type: none"> Data from 2004 show that the earnings of workers are highly dependent on their educational qualifications. University graduates earn more than those with a college, who, in turn, earn more than those with a secondary school qualification. Nearly two-thirds of workers with secondary school education earned less than 200 JD per month. By contrast, 51% of those with a college diploma and 28% of those with a degree earned less than 200JD per month. The single largest specialization of graduates in 2004 was in childhood and special education (18.5% of the total). Because the Ministry of Education requires all teachers to have degrees, few of those graduates, mostly females, have any opportunity of finding employment related to their education. However, nursing assistant graduates are the second most numerous (at 9.2% of the total in 2004), and those graduates typically find work in their field. For one specialization cited by employers as being a skill shortage area, that of marketing, the number of graduates was less than 0.06% of the total in 2004. A poor match between college programs/specializations and economic activity areas and occupations was found. A number of programs/ specializations in the engineering fields appear to be directly connected to specific economic activity areas, but this is more the exception than the rule. Overall enrolments have declined year over year for the past three years. <ul style="list-style-type: none"> The private colleges accounted for an increasing share of enrolments up to the end of 2003. In 2004, the public colleges seemed to have increased their overall share of enrolments, reversing the earlier trend. Enrolments in the two-year programs are in decline. Increasing enrolments are evident in Management Information Systems (MIS), Information Technology (IT), Environmental Engineering, Telecommunications Engineering, Air Conditioning and Heating, Associate Nursing, and Fashion Design. In spite of skill shortages in the labour market, there are few enrolments in marketing, and no program offering in the insurance fields (e.g. insurance statistician).

Sustaining and Extending Technical Vocational Education and Training (SETVET)

Performance Assessment Criterion of IMPACT and the Relevant Study Questions	Findings from the Study
<ul style="list-style-type: none"> For what occupations and economic activity areas do employers say they have difficulty finding acceptable candidates? Are there particular skill sets that employers say college graduates lack when they apply for work? Does this differ by occupation and economic activity area? 	<ul style="list-style-type: none"> Employers have some difficulty finding candidates for the following fields due to the fact that Jordanian colleges do not offer the relevant programs: <ul style="list-style-type: none"> Technical engineer (casting design); Building inspectors, survey technicians, architectural drawing; and Corporate financing (a new field in Jordan). Employers find that there are TOO FEW college graduates each year in the following fields: <ul style="list-style-type: none"> Nurses, x-ray technicians, nursing assistants; and, Behaviour pathology, disability diagnosis. The most common deficiency among graduates in almost all fields is their insufficient proficiency in the English language. High proficiency is especially important in: <ul style="list-style-type: none"> Marketing and sales (especially in shipping); Marketing and sales in hotel industry, stewarding, food and beverage manager; Lab technician – hospital; and, Automotive mechanics. Employers indicated a general need for the colleges to provide: <ul style="list-style-type: none"> Advanced computer skills to students in almost all programs and specialties; and, Advice or training in career planning and decision-making as most seem to just follow in a family occupational path.
<p><i>The extent to which colleges are perceived to have an overall positive impact on industry.</i></p> <ul style="list-style-type: none"> Is the current community college system contributing to a stable labour supply? Are employers supportive of the colleges? Do employers feel there are better alternatives for the labour market preparation of youth than the community colleges? 	<ul style="list-style-type: none"> The colleges are primarily "supply-driven" – programs/ specializations are offered year after year if enrolments are maintained. New programs/ specializations are run if they will attract students. Colleges were found not to plan their programs around labour market needs; indeed, the colleges typically do not have a formal means of identifying labour market skill requirements or the level of demand in most fields of employment. Employers requiring people with the skills taught in the colleges typically recognize the two-year diploma as a valid qualification for job entry. They will, however, hire university graduates for the same jobs if they can. Jordan currently has an over supply of university educated people in the labour market. <p>Employers said they support the college system but few had much direct involvement with the colleges, including the hosting of student field training.</p> <ul style="list-style-type: none"> The colleges cannot be all things to all people. Many specific and more advanced skills have to be learned once the graduate starts work. While employers complained that the skill level of graduates often does not meet their job requirements, they acknowledged that the two-year programs provide the basic entry-level knowledge for employment in most fields.

Sustaining and Extending Technical Vocational
Education and Training (SETVET)

Performance Assessment Criterion of IMPACT and the Relevant Study Questions	Findings from the Study
<p><i>The extent to which the colleges are perceived to have an overall positive impact on the lives of students.</i></p> <ul style="list-style-type: none"> To what degree do students attribute their labour market successes or failures and economic status to their college education? Are students supportive of the colleges? Do students feel there are better alternatives for their labour market preparation than the community colleges? 	<ul style="list-style-type: none"> Graduates suggested that factors other than their college diplomas were more important to their employment success or failure. Graduates expressed satisfaction with their college education as one means of preparing them for employment in their chosen fields, and general support for the colleges was common across the graduates from most programs/ specializations. Insufficient qualitative information was collected from the sample of graduates to address this question.

Overall Conclusion Regarding Impact

- The colleges are performing below the level of their potential in terms of impact on the labour market because of the tenuous connection of college program planning to the skill demands of the workplace. Employers in many economic activity areas find that college graduates in general have good theoretical knowledge but inadequate practical skills. Although the colleges are supposed to be producing two-year diploma graduates to specifically meet the skill requirements of jobs in the labour market, many employers seem to be just as much if not more satisfied to hire job applicants with a university education (often without specific skill preparation for the job) than those with a two-year college diploma.
- On the other hand, a number of the colleges were observed to have a vital role in the provision of skilled labour. Graduates from some of the colleges that specialize in engineering technology are in high demand in the labour market, and the programs at those colleges receive strong support from employers.
- It cannot be concluded that the colleges are providing a sufficient yearly supply of entrants to the labour market to adequately fill all of the technical, managerial, and other positions requiring the kinds of skills normally obtained in a two-year college program. Skill shortages exist in the midst of high unemployment. In the field of nursing assistance and some of the other paramedical specializations, the supply of graduates has not kept pace with the demand for workers, even though the total number of youth graduating from the colleges is adequate.

Sustaining and Extending Technical Vocational
Education and Training (SETVET)

3.2 Performance Assessment Criterion of Effectiveness

TABLE 3.2
Summary of Findings Relative to the Performance Assessment Criteria Study Questions
Criterion of Effectiveness

Performance Assessment Criterion of EFFECTIVENESS and the Relevant Study Questions	Findings from the Study
<p><i>Effectiveness</i></p> <p><i>The degree to which the colleges are responding to their role (in terms of mission, program/ curriculum development, resource allocation, student recruitment, enrolment and graduation throughput) in the preparation of students for the labour market.</i></p> <ul style="list-style-type: none"> Do the colleges see their mission in large part as one of preparing students for labour market entry and success? 	<ul style="list-style-type: none"> While the original <u>mandate</u> of the community colleges was to prepare students for the labour market, the development of specific and general employment skills and the success of graduates in getting jobs where those skills are applied do not appear to be the driving force behind college planning and activities, as seen by the: <ul style="list-style-type: none"> - Increasing numbers of students attending the colleges not to attain skills for direct job entry but as bridging to university programs; - Significant percentage of students, mostly females, taking programs in fields where the two-year diploma does not qualify them for employment (e.g. Childhood education); - Colleges planned their program offerings each year based largely on their existing capacity to provide relevant instruction and the potential for attracting sufficient student enrolments, not on the basis of labour market skill requirements and potential post-employment opportunities for their graduates; - Absence of accountability by the colleges for the post-graduation employment success of their students (the colleges do not believe that BAU is interested in the success of their graduates in finding employment); and, - Desire expressed by most colleges to begin offering or expand their current offerings of bachelor degree programs, which they acknowledge undermines the perceived value of the two-year diploma.
<ul style="list-style-type: none"> Are the colleges able to show how their programs and curricula respond to the needs of business, industry and government for people with specific knowledge, skills and attitudes? 	<ul style="list-style-type: none"> Very few of the colleges were able to show that they have a formal system for verifying the labour market applicability of their programs and curricula. In fact: <ul style="list-style-type: none"> - The majority of colleges do not invest a lot of time in asking employers about their programs; - With a few exceptions such as the UNRWA colleges, the colleges do not have specific staff assigned to liaise with employers and collect program impact information; - A majority of the public and private colleges (except for the UNRWA colleges) do not have a systematic way of determining the employment success of their graduates; - Most surveying of graduates and employers is done ad hoc by telephone; and, - BAU itself has not established a means of verifying employment outcomes of graduates in order to hold the colleges to account.

Sustaining and Extending Technical Vocational
Education and Training (SETVET)

Performance Assessment Criterion of EFFECTIVENESS and the Relevant Study Questions	Findings from the Study
<ul style="list-style-type: none"> Do the colleges base their enrolment and graduation numbers on identified labour market requirements? 	<ul style="list-style-type: none"> Labour market requirements would seem to be a minor factor in the planning of the colleges, since most planning is supply-driven and shaped by: <ul style="list-style-type: none"> The number of students currently enrolled who will continue their program of studies; The existing teaching capacity for each program and specialization already offered; Laboratory capacities and classroom space; The amount of equipment available; The number of field training placements the college can realistically expect to arrange in each specialization; The numbers of students in different fields that the universities in the area can take; Student demand for certain specializations; Employer demand (where it can be determined) for workers in the different specializations (mostly for the government sector, e.g. associate nurses); and, Directions/decisions from BAU on what specializations to offer, and how many students to enroll in each.
<ul style="list-style-type: none"> Are students recruited for the colleges on the basis of labour market destinations? 	<ul style="list-style-type: none"> Students are recruited to fill a pre-determined enrolment figure in programs and specializations planned as outlined in response to the previous question.
<p><i>The extent to which the colleges understand and are responsive to the changing human resource needs of employers.</i></p> <ul style="list-style-type: none"> Are the colleges able to identify both globally and specifically the key human resource needs of employers? Do the colleges have a systematic way of obtaining and acting on labour market intelligence from employers? 	<ul style="list-style-type: none"> The connection of colleges to employers is tenuous because: <ul style="list-style-type: none"> The colleges are not necessarily results-driven in terms of graduates finding employment; The colleges and BAU itself have not acquired a "performance culture"; Public college deans move all too frequently, and many come from the universities (academia), making it more difficult for colleges to connect with employers; and, Except for one or two, none of the public or private colleges had formal agreements or sufficient regular contact with employers to suggest a strong effort at getting skill and employment opportunity information from, or marketing of the colleges' programs and graduates to, employers. A few colleges said they have started to visit employers to get information on the employment status of their graduates. A few colleges plan on sending employers a questionnaire. However, most surveying is done ad hoc. As well, college staff do not use in any perceivable way the Department of Statistics and Al Manar labour market reports.

Sustaining and Extending Technical Vocational Education and Training (SETVET)

Performance Assessment Criterion of EFFECTIVENESS and the Relevant Study Questions	Findings from the Study
<p><i>The extent to which the colleges are meeting the actual and perceived educational needs of students for labour market entry.</i></p> <ul style="list-style-type: none"> Do college graduates (those that pass and those that fail the comprehensive exams) say they find work in occupations or economic activity areas related to their college programs? Do graduates feel their college education helped them in obtaining and succeeding in employment? 	<ul style="list-style-type: none"> Jordan has a tough labour market - unemployment is high among job seekers with college diplomas and university degrees. It is therefore not surprising to find that almost half of college graduates look for work that requires something less than a college diploma. And they will seek employment in areas not directly related to their specializations. There is some indication of a growing trend toward underemployment among college graduates. Many jobs for which college graduates are qualified are taken instead by university graduates. Nonetheless, about two-thirds of graduates said they eventually found employment in jobs at least partially related to their specializations. Graduates seemed to be "moderately" satisfied with their college experience as a means of preparing them for the labour market. However, many graduating in fields they thought offered lots of employment opportunities (e.g. IT) were disappointed to find that their college diploma only gave them entry to jobs at a level of employment that offered low salaries and work that underutilized their skills.

Overall Conclusion Regarding Effectiveness

- It is difficult to conclude that the colleges are effectively fulfilling their mandate of preparing students for the labour market because they are totally supply-driven and:
 - Most college planning focuses on the continuation of existing or creation of new programs/ specializations for which there is sufficient student interest to ensure adequate enrolments – it is not based on ensuring identified labour market skill needs are met;
 - Colleges all too willingly continue to offer programs and enroll large numbers of students in areas where the two-year diploma will not be sufficient for job entry (e.g. childhood education; pharmaceuticals).
 - The colleges do not, in the main, actively seek employer input into their programs and curricula, and they lack any real intelligence on the labour market at the national, regional or local levels; and,
 - Connections between the colleges and employers generally exist only informally – formal arrangements are few and far between.
- While their connection to labour market realities and the key players in the labour market, the employers, are weak at best, the colleges do provide students with an education that meets high academic standards. Successful completion of comprehensive examinations is required to obtain a diploma, and the comprehensive examinations pass rate never falls below 60%.

3.3 Performance Assessment Criterion of Efficiency

TABLE 3.3
Summary of Findings Relative to the Performance Assessment Criteria Study Questions
Criterion of Efficiency

Performance Assessment Criterion of EFFICIENCY and the Relevant Study Questions	Findings from the Study
<p><i>Efficiency</i></p> <p><i>The degree to which the colleges are satisfying labour market demand (in terms of numbers and skill sets required) relative to their expected level of labour market supply and relative to the alternative sources of supply (labour market entry directly from secondary school, from university programs and from other technical/vocational training providers).</i></p> <ul style="list-style-type: none"> What is the significance of the pass/fail rate by major college program area on the comprehensive examinations in terms of satisfying labour market demand? In terms of the satisfaction of students with their labour market status after graduation? 	<ul style="list-style-type: none"> The overall success rate on the Comprehensive Exams according to BAU statistics is 61%. This means there is a 39% 'wastage rate', which represents a modest inefficiency in college production, if passing the exams is considered to be important in getting employment after graduation. Employers were moderately positive about the value of passing the exams. Thus, a wastage rate of 39% is meaningful; however, employers feel the colleges should not "teach to the exam" – that there is already too much of that occurring. <p>Passing the examinations is important for the majority of graduates because public sector jobs pay according to educational qualifications, and college diplomas are only recognized in the public sector once the examinations are passed. However, graduates find that not all employers care if they passed, failed or did not take the exams. Graduates and employers felt that the exams do a good job in measuring theory but they do not measure the practical part of the specializations as well.</p>
<ul style="list-style-type: none"> How many times do college graduates have to write the comprehensive exams before passing it? Is there a major difference by program area? By type of college? Do a significant proportion of graduates fail to find work in an area related to their college program and/or specialization? 	<ul style="list-style-type: none"> A good majority of students pass the exams on their first attempt. There did not seem to be a significant difference in pass rate among the program areas, or by type of college. It was found that about two-thirds of graduates who find employment do so in an area related to their college programs. It is not surprising that in Jordan's tough labour market that graduates often have to work in lower level positions, or unrelated fields (e.g. in retail) for the first year or so after graduation. The rate of employment, and employment in a relevant field, seems to be related to the year of graduation – the longer the graduate is in the labour market, the more likely he/she is to eventually become employed in a field relevant to the college field of study.

Sustaining and Extending Technical Vocational Education and Training (SETVET)

Performance Assessment Criterion of EFFICIENCY and the Relevant Study Questions	Findings from the Study
<ul style="list-style-type: none"> Are sufficient data available to compare the labour market activity, employment and unemployment rates of college graduates to the rates for other streams to labour market entry? If so, how do college graduates fare? 	<ul style="list-style-type: none"> Labour market statistics show that female college graduates have a lower labour force participation rate than male graduates, and have a higher level of unemployment. Indeed, unemployment is highest among females for those with a college diploma. This is seen to be a direct reflection of the fact that a preponderance of females enter college to upgrade their general education and do not indeed to seek employment directly after graduation. They are also in the majority in program areas that lack much promise of post-graduation employment. <p>College graduates have levels of unemployment that are lower than among those with less than secondary education and the SAME as those with a degree.</p>
<p><i>The extent to which the colleges are making use of key mechanisms (such as national and regional labour market information, and employer advisory committees or councils) to identify demand.</i></p> <ul style="list-style-type: none"> Do the colleges systematically obtain current labour market information for use in program and curriculum planning? For providing information to prospective students to assist them in making program/specialization choices? Do the colleges know who the major employers in their regions are? Do they have any kind of relationship with these employers? 	<ul style="list-style-type: none"> There is a total absence of labour market information available <u>in an easily understandable format</u> to college staff, as well as to the students in the colleges. Such information is critical for students to determine where and how to look for work after graduation. It is vital to students for program planning, and for secondary school students individual career decision-making. The Department of Statistics and Al Manar labour market reports are not used in any perceivable way by college staff. The colleges have little connection with the employers in their geographical area, except for the purposes of arranging field training. There are no formal consultative bodies in place for the colleges to gather labour market intelligence from the employers.
<ul style="list-style-type: none"> Do the colleges seek and obtain the views of local employers about the objectives, content, and expected outcomes of their programs? 	<ul style="list-style-type: none"> Although there are a few exceptions, the public and private colleges do not have formal agreements or sufficient regular contact with employers to suggest they are able to get much input from the employers on the objectives, content or expected outcomes of their programs. In fact, many of the colleges have declined to look for employer input to the curricula because they felt that the process to get BAU to approve any curricula changes is so long that the changes would be made too late to be of use.

Sustaining and Extending Technical Vocational Education and Training (SETVET)

Performance Assessment Criterion of EFFICIENCY and the Relevant Study Questions	Findings from the Study
<p><i>The degree of coordination with all educational and labour market stakeholders in determining the size and scope of the college system.</i></p> <ul style="list-style-type: none"> Have the colleges established relationships with other educational and training providers in their regions? Do they attempt to coordinate their program/specialization offerings with other providers? What is the extent of the competition for students among the different education/training providers? Are the colleges familiar with the TVET Council strategies and policies for education and training in Jordan? In their region? Do those strategies and policies find their way into the colleges' planning of program/specialization offerings and enrolments? 	<ul style="list-style-type: none"> The public colleges are formally organized within the BAU. The Deans attend monthly meetings that are chaired by BAU. However, the private colleges feel they have little influence on the BAU even though BAU regulates them. <p>Private colleges do not collaborate a lot with one another or with the public colleges as this comprise their ability to compete with the others for students. In fact, the relations of the private colleges are better established with the private universities. Many share the use of some of the universities resources for their students.</p> <p>Even the public colleges do not coordinate their programs with others in their region. There is a strong sense of competition among the colleges, public as well as private. Duplication of program offerings and competition for student enrolments among the public colleges is evident in many regions of the country.</p> <ul style="list-style-type: none"> Most of the public and private colleges do not see the connection of the TVET work with the community college mandate. Some private colleges have run one-year vocational programs that overlap the programs offered by the vocational schools.

Overall Conclusion Regarding Efficiency

- The colleges are really not able to match the number and fields of study of their graduates with labour market requirements because they have no means of formally identifying those requirements, on a national, regional or local level.
- The public colleges compete among themselves, and the private colleges compete with the public ones for student enrolments, one result being a significant level of duplication in programs/specializations offered. Another outcome of this competition is the continuation of programs/specializations that students want to take for other than labour market preparation reasons even though there is no known labour market match for the skills they obtain.
- However, the articulation between the college and university levels of study is good. Up to a quarter of the public college students are admitted to university after completing college bridging programs.

Sustaining and Extending Technical Vocational
Education and Training (SETVET)

3.4 Performance Assessment Criterion of Relevance

TABLE 3.4
Summary of Findings Relative to the Performance Assessment Criteria Study Questions
Criterion of Relevance

Performance Assessment Criterion of RELEVANCE and the Relevant Study Questions	Findings from the Study
<p><i>Relevance</i> <i>The degree to which students perceive the college programs to have met their educational and labour market objectives.</i></p> <ul style="list-style-type: none"> To what extent do students believe they have achieved their objectives for enrolling in college programs? Is there a difference in the extent of meeting goals across different programs/specializations? Do students believe that their college experiences prepared them adequately for either further studies/training in their fields or for employment in their chosen fields? Do their views differ by type of college or by program area? Do students believe they obtained from their college experience all of the knowledge and skills needed for employment in their chosen fields? 	<ul style="list-style-type: none"> Perhaps two-thirds of college graduates seemed to feel that their goals, or reasons for going to college, were met. No significant difference in this finding was observed based on the graduates' specializations. About one quarter of graduates had attended college as a stepping stone to a university degree (perhaps in the same program area or general occupational area as their college work, but this is not known). And over one quarter actually took higher level courses after graduation, either part-time or full-time. A good proportion of those who were employed after graduation found that on-job training was still needed. <p>Employers expect to provide graduates with on-the-job training as new employees. However, many complained that college graduates they hired had insufficient practical skills even though their theoretical knowledge of the area was usually good.</p> <ul style="list-style-type: none"> Graduates were divided on the issue of the sufficiency and breadth of their employment preparation – half feeling their college training was adequate and another half feeling it was not adequate.
<p><i>The degree to which employers perceive the college programs are providing students with the knowledge, skills and attitudes required in their work places.</i></p> <ul style="list-style-type: none"> Do employers believe that college graduates have been adequately prepared for either further studies/training in their fields or for employment in those fields? Do their views differ by type of college or by program area? 	<ul style="list-style-type: none"> In the main, employers were quite positive about the quality of the college programs and their graduates. They felt that the college diploma had a recognized value in the labour market, and that a college certificate, diploma or degree does increase an employee's chances for advancement. No difference in this finding was observed among employers in different economic activity areas who normally employ graduates from different program areas.
<ul style="list-style-type: none"> Are employers satisfied with the breadth and depth of education/training given to college students in relation to the knowledge, skills and attitudes needed to succeed in their work places? 	<ul style="list-style-type: none"> By and large, employers have found that the fields of study in the colleges may be too narrowly focused. And they believe too much time is spent on theory and too little on practice. The field training experiences are, according to the employers, not long enough and not well organized by the colleges. They often find themselves unable to offer meaningful training and experience to the college students on field training.

Sustaining and Extending Technical Vocational Education and Training (SETVET)

Performance Assessment Criterion of RELEVANCE and the Relevant Study Questions	Findings from the Study
<ul style="list-style-type: none"> Do employers believe that the comprehensive exams are good measures of student attainment of the knowledge and skills important in the various occupations/areas of economic activity? Can employers identify specific knowledge and skill gaps between what is learned in college and what is needed to perform jobs satisfactorily? Are there common gaps across programs? 	<ul style="list-style-type: none"> While recognizing the importance of having a "standard" to work toward, employers felt colleges place too much emphasis on preparing students to pass the comprehensive exams, perhaps at the expense of their preparation for the practical parts of the occupation. The most common gaps cited by the employers in the education/training being provided by the colleges were: <ul style="list-style-type: none"> Adequate fluency in the English language; Advanced computer skills; and, Up-to-date technical skills, and particularly practical experience with up-to-date equipment.
<p><i>The extent to which the college programs reflect the strategies, policies and priorities established by the National TVET Council.</i></p> <ul style="list-style-type: none"> Do the colleges have a process for reviewing the strategic objectives and priorities of the TVET Council and ensuring those objectives and priorities are reflected in the colleges' administrative, management, program and curriculum plans? Do the colleges place a high value on the employment rates of their graduates? On the extent of employment in occupations or economic activity areas they believe are related to the graduates' college programs? Have the colleges put accountability measures in place? Do the public colleges seek ways of diversifying their financing? 	<ul style="list-style-type: none"> Most of the public and private colleges do not see the connection of the TVET work with the community college mandate. Most colleges would say "yes" in answer to this question, but not have a means of showing they can ascertain graduate employment outcomes in general, much less in relation to the application of the graduates' studies on the job. A number of the colleges do follow up on their graduates' progress in finding employment. In some cases, Department Heads undertake this task by making contact with graduates by telephone. However, it is rare for a college to maintain a database of graduate employment outcomes. The only ones that do are the UNRWA colleges. <p>Private colleges in particular said the success in employment of their graduates was a key to their success in attracting students to enroll. The colleges that do keep track of their graduates seemed less concerned about the actual connection of the curriculum (what the student was taught) to the type of employment than the fact that the graduates were employed.</p> <ul style="list-style-type: none"> Accountability in the colleges for labour market results is non-existent. The public colleges are financed by the Government, receiving their funding levels from BAU. They are not permitted to solicit financial support from outside of government. <p>The private colleges must be able to "balance the books" each year. Their focus is largely on profit – having revenue from fees exceed the costs for running the college. They suggested that this is the only result their investors are interested. Loss of revenue due to falling enrolments is putting the private colleges in a real bind. Consequently, the hegemony of BAU over the private colleges is perceived by the latter as a constraint in maintaining their profitability.</p>

Overall Conclusion Regarding Relevance

- For the roughly one-quarter of college students who are bridging to a university program, their college experiences are relevant to their goals. A significant proportion of those students eventually are admitted to a university.
- For those in the two-year diploma programs, only half found that their college studies were directly related to the job requirements. Employer comments tend to support this finding. While noting that the college graduates they hired were as good as other entry-level employees, employers also were unequivocal in saying that they would hire a university graduate who applied rather than the college graduate. Employers indicated they generally have to provide on-job training to all entry-level employees regardless of education level.
- Employers also were emphatic in concluding that many of the college programs are focused too narrowly, and often provide training in out-of-date procedures on old equipment. There is too much theory and not enough practice. This is confirmed by the employers' and graduates' views of the field training, which is sometimes seen as not all that well related to real-life job tasks.

3.5 Performance Assessment Criterion of Sustainability

TABLE 3.5
Summary of Findings Relative to the Performance Assessment Criteria Study Questions
Criterion of Sustainability

Performance Assessment Criterion of SUSTAINABILITY and the Relevant Study Questions	Findings from the Study
<p><i>Sustainability</i> <i>The degree to which the current college system can and should be sustained or expanded relative to the current and forecasted educational and labour market conditions, in terms of the numbers of public and private institutions, the numbers and types of program specializations offered, the numbers of enrolments and graduations, and the global costs involved.</i></p> <ul style="list-style-type: none"> • Is there adequate support from employers and the various government departments to maintain the college system at its current size and level of resource consumption? Is there a desire to see the college system expand, and if so, in what program areas? 	<ul style="list-style-type: none"> • Employers were generally supportive of the colleges in the extent to which they are fulfilling their role in the preparation of youth for the labour market. They did note a number of areas where the colleges should be providing a two-year diploma program (e.g. technical engineer (casting design), building inspectors, survey technicians, architectural drawing, and corporate financing). However, as long as good university graduates are in supply and will accept positions paying much the same as college graduates, employers will hire them. <p>The expansion in university enrolments and graduations in a job market already over supplied with degree graduates will make it ever more difficult for college graduates to find employment at their skill level and at an appropriate starting salary.</p>

Sustaining and Extending Technical Vocational Education and Training (SETVET)

Performance Assessment Criterion of SUSTAINABILITY and the Relevant Study Questions	Findings from the Study
<ul style="list-style-type: none"> Do employers and/or officials in various government departments believe there are better alternatives (in terms of outcomes, costs or both) other than the college system for preparing youth to enter the labour market? If so, what are those alternatives? What are the trends in terms of college enrolments, graduations, and successes on the comprehensive examinations? Do these trends differ by type of college and program area? Are the colleges experiencing difficulty in maintaining a high quality of education due to shortages of qualified teachers, other types of staff, or because of financial limitations? Have the colleges attempted to rationalize their programs and the use of resources to meet changing economic, technological, and demographic circumstances? 	<ul style="list-style-type: none"> No information was collected on the costs of operating the colleges or on their funding levels. The adequacy of college funding was indirectly observed through the comments of college Deans and employers about the state of equipment and materials used in the colleges. Funding is adequate for low cost programs such as English, Arabic, and Secretarial Science that require relatively little equipment and have reasonable enrolments. But for high cost programs where enrolments are not large, as is the case in many engineering fields, government funding levels for the public colleges is an issue. It is also interesting to note that several private colleges had introduced one-year vocational or commercial programs that provided graduates with skills sought in the labour market. Those programs apparently have been profitable as they have been continued for more than one year. This suggests that a mix of one-year vocational with traditional college-level programs might improve the longer-term prospects for the maintenance of student enrolments in programs with direct labour market relevance. A need for shorter (less than one year) upgrading programs was expressed by employers. This is a niche market that colleges are ideally situated to fulfill. An overall decline in college enrolments in the two-year programs is evident over the past three years. While the public colleges have been able to maintain acceptable enrolment levels by offering bachelor degree programs, this approach to sustainability puts the primary element of their mandate, that of labour market preparation, in jeopardy. Enrolments have remained steady in low labour market requirement areas such as Childhood Education, largely because females continue to enter these programs to upgrade their educations in general without having to fulfill any expectation that they will go to work afterwards. This approach to maintain enrolment numbers in the colleges is also not sustainable. Getting and keeping qualified teachers was found to be a problem in certain specializations such as the engineering fields. It was said that industry pays higher salaries and this drains these teachers from the colleges. Many also move to university teaching positions. Competition among the colleges seems to be one of the greatest barriers to any rationalization of program offerings across the public colleges. Duplication in program offerings among colleges located close to each other (e.g. in Amman) sets up real competition for student enrolments. The colleges were found to be more likely to collaborate with a university in sharing facilities and equipment than with another college. The colleges seemed slow and reticent about making program changes. The complaint was that the BAU process for change is prohibitively slow.

Overall Conclusion Regarding Sustainability

- The colleges are not meeting the skill needs of employers equally well in all economic activity areas. When the colleges fail to respond to the employers' skill needs, the employers look for alternative training approaches. In some cases, they collectively set up a training institution, as happened in the hospitality sector. This erodes the confidence of business and industry in the college system.
- The outcome of continued competition among the colleges, particularly among the public colleges, for a greater share of student enrolments has not been more programs that improve the match of college education/training to labour market demands, but has been the maintenance of enrolment levels in programs that students and their families want but oftentimes have little pay-off in terms of graduate employment. While this situation may be meeting some societal expectations, it provides fertile ground for those in the government ministries responsible for the rationalization of public expenditures to seek a reduction in the funding levels of the colleges.
- The societal preference in Jordan for youth to attain higher levels of education also works against the sustainability of the college system as it now exists. By offering degree programs, the public colleges are eroding enrolments, and eventually the quality of education/training, in the two-year programs. This trend could spell the end of the two-year diploma program in Jordanian colleges.

4. FINDINGS OF THE COMMUNITY COLLEGES ASSESSMENT STUDY ON KEY ISSUES

4.1 Labour Market Opportunities for Graduates

- The community colleges are producing some graduates that can be absorbed in the labour market, even under the present tough conditions. The unemployment rate for college graduates is much the same as for university graduates, and better than the rate for those with less than secondary education. For those graduating in a number of specializations such as Nursing Assistant and Medical Laboratory Technician, jobs are almost always available in the government. The colleges are not yet graduating more people in those fields than the government requires as a result of either increased service levels or normal turnover. Opportunities in these fields are good, and most of the graduates in these fields come from colleges either operated by the Ministry of Health, or well-connected to the Ministry.
- There appears to be significant demand in the private sector for graduates in business-related fields such as Business Management, Accounting and Management Information Systems. As well, a continuing demand is found in Secretarial Science. The number of graduates in these fields seems to match the demand fairly well. But graduates in the business fields must compete with university graduates for many of the same jobs, and there is an over supply of degree graduates in the country.
- It was observed that the graduates finding work most quickly in their fields of study came from the few colleges, such as the Amman Training College, that have an active employment service run by the college. This kind of service was not in evidence in most other colleges. It is a critical missing ingredient in the college system as graduates often fail to find employment even when relevant job vacancies exist simply because they do

not know where or how to locate the job opportunities. Employment assistance services have a proven value in helping graduates connect with available job openings.

- In spite of the high level of unemployment in Jordan, shortages of people with particular skills exist. For most of those skill shortage areas, such as in marketing, only a few college programs are offered, or none at all (e.g. insurance statistician). These are areas of labour market opportunity where the colleges ought to be developing programs.

4.2 Mandate of the Community Colleges

- The primary focus of the colleges should be on the preparation of youth for the labour market. While it is important for all college programs to be academically sound, the college mandate is not to produce graduates with a good general education. It is to produce graduates with the specific skills needed in the labour market. Unfortunately, the emphasis has been more on academic excellence than on the development of practical skills. In this sense, the colleges are serving more as a feeder system for the universities than as a producer of skilled technicians and technologists.
- As the student enrolments in the bachelor degree programs grow within the public colleges, the value of the two-year diploma programs is diminished. Given the size of university enrolments in Jordan, it is indeed questionable that the colleges even offer bachelor programs.

4.3 Community College Programs

- No mechanism exists within the college system for coordinated, college-wide program planning based on key performance indicators. Indeed, there is no system for program review based on performance.
- Tremendous program duplication exists within the public colleges. It is true that the colleges serve a community of people who may be geographically separated from other communities, and therefore need programs that may be offered in adjacent communities. But much the same menu of programs is offered by colleges in the same geographical area, setting the stage for unwanted competition for student enrolments.
- It is costly to acquire the equipment and materials needed to provide two years of training in a specific field. Having so many colleges offering many of the same programs not only puts a strain on the BAU budget to equip the colleges, but likely diminishes the amount of support that each college can obtain from employers in their communities. Too many colleges are a "jack of all trades but master of none".
- Graduates and employers alike said that the colleges provide too much theory and not enough of the practical components within a field of study. This problem is likely related to the background and qualifications of college teachers and administrative staff – they are academics first and practitioners second, or not at all.
- Field training is ideally that part of the two-year program of studies when students get to try out what they have learned in a job. Unfortunately, the quality of the field training is sometimes poor, and students learn little more than "window washing". Greater emphasis needs to be placed on the securing of quality field training positions with employers.

4.4 Community College Teachers

- College teachers should be first and foremost experts in their fields. They also need to be seasoned practitioners. College teachers are often the only role models for an

occupation that students will encounter before going to their first jobs. Those teachers should have a current occupational skills and a sound familiarity with the work environment. That is the recipe for success in preparing youth for the labour market.

- Since all college teachers have to be degree graduates, more often than not the teachers are academics first and technicians or technologists second. In Canada as in other countries, it has been found that the best source of college teachers is from the ranks of practitioners in the field. They can be trained to be teachers much more easily than academic teachers can acquire practical job skills.
- At the present time, it is very difficult for the colleges to hire part-time or sessional teachers. The colleges also lack any kind of system for having employed technicians or technologists seconded to the colleges for a period of time. Colleges in Canada sometimes have exchange agreements with companies or government departments to engage their employees as college teachers for one or two years while sending some teachers into the workplace in exchange.

4.5 Comprehensive Examinations

- Graduates and employers recognized the need for college specialization graduation standards. However, both groups argued that the examinations measure theory well but the practical aspects of their specializations not so well. There is room for improvements in the examination process, particularly in the way the practical skills of a field are measured.
- College Deans emphasized their track records in having their students pass the examinations the first time around. The graduates noted that the colleges frequently "teach to the exam" to ensure student success. Employers suggested that teaching to the exam narrows the occupational preparation of students.

4.6 Connections Between Colleges and Employers

- This is likely the "weak link" in the current college system in Jordan. The colleges are well-connected to academia, hiring degree graduates as teachers and drawing their administrators from the universities. Few of the colleges had any formal arrangements with employers or their associations for: gathering labour market intelligence, getting employer input into the curricula, obtaining assistance to acquire up-to-date equipment and supplies, or improve the depth and scope of the field training.
- There are no employer incentives for cooperating with the colleges in providing quality field training for the students.

4.7 Career Planning and Labour Market Services

- The colleges are not alone in their lack of career planning and labour market services for their students. These services are also not provided in the secondary schools. No programs exist to provide students with information on themselves – their aptitudes and interests – and with information on how the various college programs connect to jobs. Graduates noted that this was an area where they felt the college really let them down. Some entered the labour market with serious misconceptions about what employment in their fields involved, what it paid, etc.
- Students in the colleges do not have access to labour market information in a form they can understand and that is relevant to their geographical areas. In fact, the college staff themselves do not have good labour market information.

4.8 Organizational Obstacles to Meeting Labour Market Skill Requirements

- The college administration in Jordan is highly centralized, with tight control exerted over the colleges by BAU. It is difficult for the colleges to make changes to the curriculum in response to changes in the labour market skill requirements, as all such changes have to be approved by BAU, and the process is reported to be very long. Even the private colleges must get approval from BAU to alter their curricula. When the private colleges develop a new or revised program, BAU shares the new/revised program with all the colleges. Since the private colleges must compete with the public ones for students, BAU control over their programs eliminates any possible competitive advantage to be gained by making program changes.
- The biggest obstacle to making the colleges more responsive to the labour market requirements of employers is that they are organized on an academic and not a skills training model. Colleges are held to account by BAU for their students' success on the comprehensive exams, and not for the students' post-graduation employment success. The colleges are not provided with any incentives that could be identified for developing partnership or sharing arrangements with employers – the very kinds of arrangements normally associated with a strong connection of college programs to the labour market.

5. PUTTING THE FINDINGS TO WORK: SUGGESTIONS AND RECOMMENDATIONS

5.1 Establish Stakeholder Councils

Jordan does not seem to have established a practice in the education field at least of governing its public institutions through stakeholder partnerships or participatory bodies. In Canada, as in many countries, the community colleges and universities receive public funding as their main but not only source of income. They are typically established as not-for-profit, non-government organizations that are governed by boards made up of a variety of stakeholders (academic, government, business, industry, and sometimes community interest groups). In such cases, the college curricula are influenced by the needs of business and industry, as well as the interests of the government and non-government groups.

Having the governance of the colleges involve stakeholders outside of the education system does not in itself provide a strong connection with business, industry and the labour market. Many provinces in Canada, and the Canadian federal government, recognized that multipartite bodies (whether called councils, boards, etc.) were required to strengthen the connection of the colleges and other training institutions to the labour market. Labour market advisory boards or councils were formed with a mandate to improve the match of college education with labour market needs.

Not surprisingly, one of the first issues addressed by many of the labour market boards was the adequacy of labour market information for college program planning. A result of this has been a concerted effort at the federal and provincial levels in Canada to provide information that can be used by the colleges to develop programs that respond to existing and emerging labour market demands.

Jordanian colleges must find a means to develop strong partnerships with business and industry in most the country's economic activity areas. Establishing formal stakeholder councils/boards/ advisory groups is one key way to do this. Because of the regional and local differences in the Jordanian labour market, these groups should be established at the national, regional and local

levels. The one basic model for stakeholder representation (i.e. who is a member of the group and how many representatives should they provide) could be the same for the advisory groups at all three levels. Members must at least come from: the public and private colleges, business associations such as the Chamber of Commerce, specific companies in key economic sectors, and government ministries.

The role of the stakeholder groups should be:

- To gather precise information on the labour market skill needs that currently exist and the trends for the future;
- To obtain input on college program and specialization content;
- To share their expertise through arrangements that might see employed practitioners serving as college instructors part-time, or full-time for a set period of time;
- To share their expertise by having college teachers spend a set period of time working in a field with cooperating employers; and,
- Joint college-employer ownership of the colleges' field training programs.

52. Rationalize the College Program and Specialization Offerings

Duplication abounds among the public and private colleges, and among the public colleges themselves. And many times the colleges that offer the same programs are not separated geographically all that much. They compete to attract students into the same programs. This is not efficient, and not in the public interest. Clearly, a systematic approach to program planning for all of the public and private colleges would be in the public interest. BAU was created to provide leadership and accept responsibility in this very area.

One approach to reduce duplication and enable the colleges at least to maintain enrolments is to have the colleges specialize in various areas. This is already the case in many of the colleges, but recently those specializing in say architecture and drafting have added programs in more general areas common to other colleges such as IT or MIS. The BAU has the authority to rationalize program/specialization offerings among the colleges, and should use this authority to execute a strategic plan that would see at least 80% of all of the public colleges specialized in only two or three areas. The aim of this approach should be to eventually have in Jordan College Centres of Excellence that become known for their high quality of PRACTICAL teaching in a few fields, use of up-to-date equipment, and graduation of students who become quickly employed, often by the employers who hosted the field training of students from the Centre of Excellence.

5.3 Reconsider the Policy on College Faculty Qualifications

It is commendable that Jordan values its college education system enough to want to ensure that the colleges employ only well-educated teachers. The unfortunate part is that the current college system equates academic qualifications with being well-educated. For technicians, technologists and professionals in many fields, being well-educated equates more to having learned well the highly specialized skills of the job, and having acquired sufficient job experience to be recognized as "successful". The preparation of technicians, technologists and other professionals should begin with an education that has good role models imparting the "secrets of the craft" to students. Teachers with high academic credentials but without the specific qualifications and experience of most of the practitioners in the field cannot serve as role models and generally are not able to impart the essence of the craft.

The BAU needs to change the college teaching requirements for many of its program areas to focus on having teachers with recognized certificates or diplomas in a specialization and a healthy amount of practical experience. Possession of an academic degree would be an attractive secondary qualification but not the basic entry requirement for teaching. All teachers, with or without a degree, should be required to undertake at least one credit course specifically designed to prepare people with appropriate qualifications for college teaching.

Once it has been established that certification or a diploma in an area, along with job experience, is the primary qualification required for college teaching, it will be possible for the colleges to find employed experts who are certainly qualified in their fields to teach on a part-time basis at the colleges. Part-time teachers would also have to undertake the one credit course in college teaching.

5.4 Establish a Permanent Graduate Follow Up Information System

The colleges should be held accountable for the employment success of their graduates. That is not to say that a graduate's college preparation is the only factor that determines his/her success in finding and keeping a job in a relevant area. The labour market environment, and the individual's personal characteristics are main determiners of success in employment. However, the level of employment/unemployment of the college's graduates in areas relevant to the college programs is an important indicator, taken over time, of the impact of the colleges on the labour market.

The most important source of information on the employment experience of college graduates are the graduates themselves. Obtaining post-graduation employment information, and connecting it to the college experiences of the graduates, is not something that can be done all that reliably in an ad-hoc manner, or as an after-the-fact study. The Graduate Tracer Survey done for this study was of the latter type. Its inherent limitations were discussed in an earlier section of this report.

The best approach to securing reliable post-graduate information linked to the college programs is to set up a longitudinal study that uses cohorts of students who graduated from the various colleges across the country. A graduate cohort is obtained by randomly selecting a specific number of graduates from each of the public and private colleges in the starting year of the survey. The total starting number in the longitudinal sample should be somewhere in the order of 4,000. Graduate names and contact information can be obtained from the BAU comprehensive examination records. Graduates who pass and fail the exams should be included in the sample.

The sample cohort is asked to fill out a survey form immediately after finishing the exams, and at 12 month intervals over the following three years. The kinds of questions included in the present Graduate Tracer Survey could form the basis for the survey forms.

A second sample cohort is selected the second year of the study and is also followed for three years. This is done again for the third year of the study. After six years, the graduation follow-up study is completed. Of course, valuable information is collected, analyzed and reported each year over the six years of the study.

6 CONCLUDING REMARKS

The community colleges in Jordan are well established as intermediate level academic institutions. They provide university bridging programs quite successfully, and an increasing number of the public colleges are graduating students with bachelor degrees. The colleges are

Sustaining and Extending Technical Vocational Education and Training (SETVET)

presenting themselves as “university colleges” with an emphasis on academic excellence. Being organized under the umbrella of Al Balqa’ Applied University further defines the colleges as a part of the academic educational enterprise that extends from primary school to post-graduate university programs.

The colleges fit well within the academic educational enterprise. The articulation from college to university programs is good, with students who take the university bridging programs receiving credits from the universities for a good percentage of their college courses. All college teachers must have at least a bachelor degree. There is a significant amount of job mobility between the teachers and administrators of the colleges and those of the universities. The colleges are governed in the same way as other academic institutions. They are accountable mostly for the academic quality of their programs, and for maintaining student enrolments.

In terms of their primary mandate, the preparation of youth for the labour market, the colleges are not so well established. It is not difficult to see why. The colleges are producing graduates for employment in the same fields and at the same skill levels as two other types of Jordanian institutions. Like the technical and vocational institutes, the colleges provide training in a number of vocational areas such as secretarial science, automotive mechanics, and the construction and retail trades. Several colleges even run one year programs in these areas. Like the universities they offer bachelor degrees in several fields.

The connection of the colleges to the labour market is also not evident because few of the colleges plan their programs for subsequent years on the basis of labour market skill requirements and job opportunities. They cannot plan to respond to labour market needs because, in the main, they do not know what those needs are. Labour market intelligence is lacking. And few colleges have any formal relationships with employers through which they might obtain that intelligence, and then be able to tune their programs to meet employment requirements.

A certain number of colleges that specialize in the health sciences have a stronger connection to the labour market than the other colleges. They are operated by the Ministry of Health, and most of their graduates enter the country’s health services. The UNRWA colleges also are well connected to the labour market. They offer only college programs for which graduates can find related work, and actively market their graduates through a fully resourced employment service. The UNRWA colleges are a good “model” for the other colleges to emulate, in terms of their relationships with employers, responsive program planning, and integrated labour market information and student employment services. The majority of other colleges offer a variety of programs, some of which produce graduates whose skills are clearly needed in the labour market, and some of which produce graduates who cannot be employed in the area of their specialization. Post-graduation employment is simply not the main driving force behind the efforts of a good proportion of the colleges.

In the current situation, it is imaginable that the functions now being filled by a large percentage of the colleges could be passed to two other institutions: the universities and the technical-vocational institutes. The colleges operated by the Ministry of Health and those operated by the UNRWA have their specialized “niches” which other educational/training organizations do not duplicate. They are clearly sustainable for the foreseeable future. However, should a government official inclined to seek “value of money” look for ways of reducing the funding for post-secondary education, the community colleges could be the first on chopping block. The colleges would have difficulty demonstrating that they are essential to the labour market integration of a significant proportion of Jordanians.

Sustaining and Extending Technical Vocational
Education and Training (SETVET)

The main conclusion of this community college assessment study is that the Government of Jordan, in order to have the colleges fulfill their mandate as viable contributors to the labour market preparation of Jordanian youth, will have to take steps very soon to clearly align the college programs with the skill needs and job opportunities in the labour market. Those steps have to include changes in the way the college program offerings are planned, in the criteria for the staffing of teaching and administrative positions in the colleges, in the accountability structure of the colleges, in the types of information collected for planning and accountability, and in the methods of information collection that are used.

Conclusions and recommendations are nice but produce little unless the target audiences are identified. Thus, criticizing the college Deans based on these study findings is not appropriate. That will not lead to change. The Deans do not have the authority under the current centralized system to make the kinds of changes recommended. However, the BAU does have that authority and responsibility.

It is believed that the BAU could implement the first recommendation, to establish stakeholder councils, within its current authority and mandate. The BAU will need to collaborate with the Ministry of Planning to ensure the implementation of the second recommendation on college program rationalization integrates well with other Government initiatives related to labour force supply and demand. Action on the third recommendation, to change the existing policy on the college faculty qualifications, will require the approval of the Ministry of Higher Education. And the BAU will need the support and assistance of the NCHRD and DOS to establish a permanent graduate follow up information system that includes a means to validate graduate survey responses using labour force and demographic data.

Finally, it should be noted that this study was undertaken to complement the White Paper on post-secondary education and training that was sponsored by the World Bank. While the White Paper focused largely on the structural changes needed to improve post-secondary education in Jordan, mainly institutional changes are recommended in this study.

