

Labour Market Information in the context of National Skills Strategy implementation in Pakistan

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TVET Reform Support Programme



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اسلامی جمہوریہ پاکستان
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Acronyms

AEE	Annual Establishment Enquiry
AEPAM	Academy of Education Planning and Management
BEOE	Bureau of Emigration and Overseas Employment
CCI	Chamber of Commerce and Industry
CIWCE	Centre for the Improvement of Working Conditions and Environment
CMI	Census of Manufacturing Industries
COD	Country of Destination
CPO	Career and Placement Officer
DMT	Directorate of Manpower & Training
EFP	Employers Federation of Pakistan
EMIS	Education Management and Information System
ERP	Enterprise Resource Planning
FPCCI	Federation of Pakistan Chambers of Commerce and Industry
GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH
HEC	Higher Education Commission
ILO	International Labour Organization
IMC	Institute Management Committee
IT	Information Technology
KPK	Khyber Pakhtunkhwa
LCCI	Lahore Chamber of Commerce and Industry
LFS	Labour Force Survey
LM	Labour Market
LMD	Labour Market Data
LMI	Labour Market Information
LMIS	Labour Market Information System
LMIA-U	Labour Market Information Analysis Unit
LMI& S	Labour Market Information & Services
LUMS	Lahore University of Management Sciences
MIS	Management Information System
MoET	Ministry of Education & Training
MoHRD	Ministry of Human Resource Development
MoLMP	Ministry of Labour and Manpower
MoU	Memorandum of Understanding
NADRA	National Database & Registration Authority
NAVTTTC	National Vocational and Technical Training Commission
NEMIS	National Education Management Information System
NGO	Non-Government Organizations
NIPS	National Institute of Population Studies
NSS	National Skills Strategy
NTB	National Training Bureau
PBS	Pakistan Bureau of Statistics

PCP	Planning Commission of Pakistan
PEOP	Punjab Economic Opportunity Programme
PIDE	Pakistan Institute of Development Economics
POEPA	Pakistan Overseas Employment Promoters Association
PSD-AP	Provincial Skills Development Action Plan
PSDF	Punjab Skill Development Fund
PSLM S	Pakistan Social and Living Standards Measurement Survey
P-TEVTA	Punjab Technical Education and Vocational Training Authority
PVTC	Punjab Vocational Training Council
SDC	Skills Development Council
SMEDA	Small and Medium Enterprises Development Authority
SNA	Skill Needs Analysis
S-TEVTA	Sindh Technical Education and Vocational Training Authority
TEVTA	Technical Education and Vocational Training Authority
TVET	Technical and Vocational Education and Training
WEBCOP	Workers Employers Bilateral Council of Pakistan

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Annex 1: Draft ToR, Labour Market Information Analyst for NAVTTC

1. Introduction

The National Vocational and Technical Education Commission (NAVTEC) has developed a policy document titled *Skilling Pakistan: National Skills Strategy 2009 - 2013 (NSS)*¹. The strategy's fundamental aim is to reform the Technical Education and Vocational Training (TVET) system. The NSS envisions provision of relevant skills for industrial and economic development, improvement of access, equity and employability and assurance of quality through an integrated approach.

The National Skills Strategy proposed twenty strategic initiatives to translate this vision into viable reforms, and the role of the TVET Reform Support Programme is to assist in the implementation of the NSS. However, successful management and execution of such a programme requires that extensive information is available on labour market developments in Pakistan. Unfortunately, such a management information system does not exist in the country at the moment.

The purpose of this report is to propose suggestions for the up gradation of Labour Market Information in Pakistan for the purpose of TVET policy formulation and implementation. This report is a follow-up to the feasibility study that was drafted on the occasion of a recent mission titled "Labour Market Information, a situational analysis of Pakistan".²

This report is based on continuous desk research and over 15 meetings with stakeholders in the TVET sector at the federal and provincial (Punjab and Sindh) levels. Its main objective is to outline a work plan for the gradual up-gradation of LMI to bring it to the level required for successful policy making and implementation of TVET at various administrative levels. Special attention has been paid to the type of information that will be needed, suitable methods that can be adopted to collect it and the most optimal institutional setting. The report also gives suggestions with regards to appropriate division of tasks and responsibilities for data and information collectors as well as users, and how to best use and disseminate information to support capacity development for LMI.

¹ NAVTEC, *Skilling Pakistan: National Skills Strategy 2009-2013 (NSS)*, Prime Minister Secretariat, Islamabad, Pakistan, 2009

² Jan de Voogd, and Muhammed Iqbal Qureshi, "Labour Market Information - a situational analysis of Pakistan", November 2011

2. Functions of LMI and required type of information

2.1 Major functions of LMI for TVET policy making and implementation

According to Sparrenboom, 'Labour Management Information' is defined as: *“Statistical and non-statistical information concerning labour market actors and their environment, as well as information concerning labour market institutions, policies and regulations that serves the needs of users and has been collected through the application of accepted methodologies and practice to the largest possible extent.”*³

Based on this definition, the institutionalised method to regularly and systematically collect and update LMI may be considered to be a Labour Market Information System (LMIS). This definition leaves room for systems of different levels of complexity. In all such systems, however, the common aspect will be that the processes of Labour Market data collection and analysis will form the basis for a LMIS. The question remains to what extent a LMIS is integrated into an IT-based system and its electronic accessibility provided to users and providers.

In the framework of TVET policy making and implementation of LMI (in its wider sense), the following functions (abbreviated as F) will be used:

F1: TVET student and learner capacity planning. Training institutions and TVET authorities have to take decisions with regards to training capacity and expected required resources in the future. This refers to the addition, subtraction, expansion or reduction of training infrastructure. It also includes assessment of need for additional equipment and human resources (trainers). For this purpose, medium and long-term identification of the labour demand for each occupational and skill category is necessary at the local level. Similarly, , the supply side, as expressed in the development of social demand for the various types of training, also needs to be identified.

F2: Planning of short courses for training and retraining of specific target groups (initial students, school dropouts , employees, and entrepreneurs). This requires demand and supply information per occupation or skill category in the short run.

F3: Background information for development of occupational standards, training and assessment standards and revision of curricula. Functional mapping is used in Anglo-Saxon systems of occupational standards development and starts with the identification of key skills and occupations in a sector, employment related developments and economic technological and organizational developments influencing the employment.

F4: Background information for vocational guidance and counselling systems. Those who are facing educational and occupational choices (and the parents of youngsters) are to be

³ See also other definitions discussed in De Voogd/Qureshi (2011), section 3.1

informed about job and income chances as well as the job requirements for the various occupations within their range of choice.

F5: Background information of labour exchange offices, career development centres, etc for placement of TVET graduates. In order to develop and manage placement and mediation schemes for these services, an overview of the labour demand (in the short run) per sector and occupation is necessary.

F6: Measurement of labour market effectiveness and quality of TVET output. Consensus exists that TVET institutions should try to design and implement their curricula such that their graduates have optimal chances of finding work or being self employed. The degree to which the acquired competences of the trainees match with the workforce requirements of the employers is expressed in terms of work and placement rates, the extent of under-skilling and the level of income gained in the first job, as well as in career perspectives.

At the moment these functions are mainly carried out without sufficient LMI or on the basis of ad hoc LMI that lacks sufficient significance for TVET policy. It is necessary to decide to which administrative levels these functions will be allocated.

This depends in the first place on how Pakistan wishes to formulate its TVET policies in general terms, and how it wishes to implement these in various provinces and regions. A TVET system that aims to meet the needs of the labour market in a flexible way should take into account the local differences in labour market situations. This means that not only is there need to monitor local labour market developments, but also that greater autonomy should be provided to TVET institutions to adjust their programmes according to these needs. And monitoring the local labour market needs implies that several of the above mentioned functions will have to be allocated to the district level, requiring strong capacity building and strengthening of institutions at the local level.

Furthermore, data collection by its very nature has to be carried out at the local level. From this perspective, a bottom up approach for data collection and design of a LMIS is to be favoured over a centralised approach that would rely only on the use of centrally analysed labour market information by TVET actors at lower administrative levels. It is firmly believed that districts and provinces should be the hub for gathering of LMI, analysis of the data collected and use of the LMI in developing training policies. Given the complexity of labour market analysis it will, however, not be possible to allocate labour market expertise to all districts. It is recommended that the division of tasks be as follows:

- **At the district level, assuming that a district more or less corresponds with a local labour market in the geographical sense, data should be periodically collected on the basis of a plan that is developed by the provincial TEVTA authorities in close cooperation with the provincial Labour and Manpower Departments, the provincial Planning and Development Departments as well as provincial statistical agencies.** Such a plan should minimize harmonization between the districts and leave room for each district to col-

lect specific data and conduct labour market analysis based on its particular employment and skill structures. This will also allow the districts to conduct business in different manners depending on their ability to use more or less advanced data collection methods. For similar reasons, data processing will also be allocated to the district level because the resulting LMI will be relevant for various stakeholders at the district level. Such an approach, however, needs to be pilot tested.

- Provincial TVET authorities will be responsible for the development of a LMIS on the basis of data collected in the districts. A district dimension will be incorporated in the data wherever the above mentioned functions require it. TEVTA will organise its LMIS system in coordination with other provinces and NAVTTC in accordance with methodological guidelines as prepared by NAVTTC.

The development of the LMIS will be phased. Due to the different labour market characteristics of the provinces and the capacities for data collection and analysis, the provincial plans for developing an LMIS will not necessarily have the same scope or timelines.

The (timely) and efficient dissemination of LMI to all decision makers, TEVTA management, management of training institutions in the provinces, CCIs and business associations, as well as NAVTTC and other stakeholders at the federal and provincial levels, will be a key target of an operational LMI work plan.

Key stakeholders at federal level can be the organisations that have been represented in the inter-provincial working group proposed below, e.g. the Planning Commission, PBS, BEOE, POF, HEC, various Ministries (HRD, Finance, and Industry), EFP, EDB, APEM/NEMIS, SMEDA etc. At the provincial level, some of the possible stakeholders proposed for inclusion are: CCIs, sector associations, Departments of Labour and Manpower, Departments of Education, SDCs, and representatives of public and private TVET training institutions as well as NGOS working in training or on employment creation.

- **NAVTTC will act as a federal coordination agency for LMI as long as no other central organization is taking this role. In its role as the central coordinating agency for LMI, it should be well integrated both horizontally and vertically i.e., it should work with stakeholders at both the federal and provincial level in an institutionalized manner. This also implies that NAVTTC should have a supporting, coordinating and guiding role in organising LMI processes.** This will consist of bringing the provincial TEVTAs together in order to streamline and harmonise their LMI work plans, as well as to provide methodological guidance for surveys, questionnaires, data collection, and analysis. NAVTTC will also have a key role in the analysis and use of LMI and the dissemination of relevant data nationally.

Furthermore, NAVTTC will carry out its own analysis of data received from the provinces for the specific functions it is expected to perform, like the stimulation of training innovation, development of national occupational standards and specific training for labour demand

abroad etc. NAVTTC will manage a database of LMI received from the provinces with additional modules for data and information received from federal stakeholders. For the latter, the PBS should be considered, followed by the Planning Commission, the BEOE, the EMIS as managed by the AEAPM and Overseas Pakistanis and Foreign Missions in Countries of Destinations (CODs) through Community Welfare/Labour Attaches.

NAVTTC will issue an annual report on LMI based on the information collected from the various levels from the lowest to the highest. A dissemination policy for LMI will be formulated in consultation with the TEVTAs and stakeholders at the federal level which will rely on principles of openness and efficiency with a guarantee for confidentiality of individual and corporate data. The methodological guidance function will include capacity building of LMI staff in TEVTAs and other stakeholders that are driving the LMIS at the provincial level. This process will be supported by experts from the TVET Reform Support Programme.

2.2 Required type of information

A first review of the required type of information was made in the first identification mission.⁴ (See: table 3.1. in the report “Labour Market Information, a situational analysis of Pakistan”)

Although more information at a disaggregated level is needed. The gaps identified in this study in existing LMI are huge. The key areas in which sufficient information is lacking are described below.

Assessment of available information

On the labour demand side, the following gaps were found:

- ✓ skill needs for TVET related occupations;
- ✓ working hours at a sufficiently disaggregated level;
- ✓ labour demand abroad (in potential destination countries);
- ✓ working conditions; and,
- ✓ job creation at the firm and sector level.

On the labour supply side there are gaps/deficiencies in information in the following areas:

- ✓ demographic data and demographic projections given the lack of a sound civic administration;
- ✓ output from TVET providers and courses by occupational area (although the provincial TEVTAs testing boards may be capable of generating time series on the basis of data in their archives);
- ✓ quantitative information on school-to-work transition;

⁴ see: table 3.1. in the report Labour Market Information, a situational analysis of Pakistan

- ✓ qualitative information on labour market relevance of TVET training;
- ✓ potential and actual labour emigration of skilled workers;
- ✓ labour turnover at the firm level;
- ✓ occupational mobility;
- ✓ labour market status of specific vulnerable target groups (except age and gender for some wider occupational categories).

As for labour market discrepancies, the following data is largely missing:

- ✓ data on vacancies and skill shortages;
- ✓ disaggregated data on unemployment at the required level of education/training and occupational category;
- ✓ data to compile indicators of skill mismatches among the working population;
- ✓ earnings and wages as price information and indicators for labour market imbalances in TVET-related areas (per occupation/occupational category);
- ✓ information to benchmark districts and provinces in terms of labour market discrepancies; and
- ✓ data on internal regional migration of labour according to occupation, education and training.

Time series

It should be stressed that for certain functions, time series need to be of an adequately long duration, especially when it comes to building forecast models of demand and supply. This is expressed in Table 1 below. The table summarizes which type of information needs to be assembled to facilitate the functions mentioned in its third column. It states labour market variables in the second column and differentiates between demand side, supply side, and labour market discrepancies (also in the second column). The fourth column identifies the administrative levels for which LMI is to be found (be it local, provincial or federal). The fifth column identifies possible types of surveys, statistics and data sources.

Given the wide gaps in the available information, it is clear that priorities need to be set in designing a work programme for data collection. Priorities for LMI are to be linked to the priorities set for the various functions mentioned in the third column of Table 1, the feasibility of implementing reliable data collection methods, and cost considerations. Cost efficiency can be raised by using possibilities offered by regularly assembled statistics (e.g. the LFSs) or by integrating the collection of data into the administrative processes of existing organisations. Data collection techniques will need to be carefully chosen (for validity and efficiency reasons). Therefore, it is recommended that a pilot phase be conducted to try the different techniques of data collection and select the most optimal one. This pilot phase is especially important to win stakeholders' confidence who have consistently expressed doubts in the ability or motivation of employers to successfully collect useful employment data. Additionally, private sector representatives and informal leaders should also be involved in the process of preparing employer surveys.

Table 1: Required type of LMI for various TVET policy and implementation functions

Nr.	Subject of LMI	Major functions for TVET	Relevant for adm. level:	Type of surveys, statistics and sources
1	DEMAND SIDE			
1.1	Developments in sectoral employment	F1,F4,F5	L, p, f	employment surveys, <i>establishment surveys</i> , <i>LFSs</i> , sectoral employers panels
1.2	Developments in skill and occupational structure of employment	F1,F2,F3,F4,F5	L, p, f	employment surveys, establishment surveys, <i>LFSs</i> , sectoral employers panels
1.3	Developments in educational/occupational profiles of employment	F1,F2,F3,F4,F5	p, f	<i>LFSs</i> , employer surveys, sectoral employers panels
1.4	Labour demand abroad	F1,F2,F4	p, f	<i>Database of BEOE</i> , labour attaché surveys and reports
1.5	Training needs of working population	F2,F3,F4,F6	L, p	Employers and employee surveys, sectoral employers panels
1.6	Labour productivity trends	F1	p, f	<i>LFSs</i> , <i>economic statistics</i>
1.7	Work conditions by occupations	F3,F4,F5,F6	p, f	Employee surveys, tracer studies. <i>PSLMSs</i> , <i>LFSs</i>
2	SUPPLY SIDE			
2.1	Labour force by education/training achieved	F1, F4	l, p, f	<i>LFSs</i> , <i>PSLMSs</i> , employer surveys
2.2	Working labour force by training/education achieved	F1, F4	l, p, f	<i>LFSs</i> , <i>PSLMSs</i> , employer surveys
2.3	Wage/income profiles by type of TVET	F1,F3,F4,F5,F6	l, p, f	<i>LFSs</i> , <i>PSLMSs</i> , employer surveys, employee surveys
2.4	Labour emigration by education and occupation	F1,F4,F5	p, f	<i>Database of BEOE</i> , emigrant surveys
2.5	Occupational mobility	F1,F2,F4,F5	p, f	<i>LFSs</i> , employee surveys

2.6	Social demand for training	F1, F4	L, p	Applicant registration by training institutions, student surveys
2.7	School-to-work transition	F1,F4,F5,F6	L, p	Tracer studies
2.8	Replacement demand	F1,F2	L. p	LFSs
2.9	(In)activity rates by occupation/skills category	F1,F2	p, f	<i>LFSs</i> , tracer studies
3	LM discrepancies			
3.1.	(Hard to fill) vacancies by occupation	F1,F2,F4,F5	L, p	Employer surveys, advertisement statistics, online placement statistics
3.2	Unemployment rates by occupation education and training	F1,F2,F4,F5,F6	L, p, f	<i>LFSs</i> , <i>PSLMSs</i> , tracer studies
3.3	Under- and over employment by education/skills category	F1,F2,F4,F5,F6	L, p, f	<i>LFSs</i> , employer surveys
3.4	Job/work placement rates of TVET graduates	F1,F6	L, p	Tracer studies
3.5	Skill needs/ skill gap assessment by TVET graduates	F2,F3,F6	L, p	Tracer studies

* **L: local; p: provincial; f: federal**

2.3 Role of Pakistan Bureau of Statistics (PBS) in generating information

The PBS has a tradition of generating labour statistics with a strong focus on the Labour Force Surveys (LFSs). For TVET purposes, the published data of LFS has its limitations since the level of aggregation of occupational, sectoral and educational information is too high. To some extent, this is due to the restrictions of the sample size. However, the PBS management allows for re-analysis of micro-datasets of the LFSs for specific research objectives. This has already been demonstrated in various research publications, especially of the LMIA-U under the previous Ministry of Labour and Manpower. It also allows similar re-analyses with the PSLM.

The PBS has also developed some labour force statistics at the district level e.g. it provides labour force data for district Faisalabad. However, the resulting statistics are still not directly relevant for TVET purposes because of the high level of aggregation of some variables (sectors, education, occupation and training gained and required). It is recommended that this activity be improved in consultation with NAVTTC and the provincial TEVTAs.

In meetings with the PBS, the willingness to consider application of more differentiated classifications for occupations and education/training in future LFSs has been expressed, provided that this is feasible from a methodological point of view and that the cost consequences will be limited.

A number of questions in section 4 of the LFS (2010-2011 version) allow for construction of a new education variable: “achieved TVET-level and branch”. Another variable can be constructed in addition to this one that allows measurement of the extent of TVET training an individual has undergone. Investigation of the micro-dataset of the PBS may reveal which characteristics for TVET trained persons can be taken into account and which of the above mentioned LM indicators can be measured, e.g. at least at the provincial level.

The construction of new variables and the re-analysis of LFS datasets should be done with the aim of designing time series to allow for analyses of trends over time and establishment of labour market midterm projections. The construction of a new TVET variable should also take into consideration the fact that questions related to TVET training have not been formulated identically over the years. The latest LFS (2010-11), for example, allows for a more detailed analysis of history of training and duration of training courses on the basis of information it collected.

In comparison with the LFSs, the PSLMS, which started later as a household survey, contains information on income and consumption, but less on labour and education. In consultation with the PBS, it will also be considered how results from the datasets of the two surveys at the lowest level of sampling units may be linked for further analysis.

Another issue currently, is the lack of sound education and (TVET) training information. Both the 2011 feasibility study Pakistan in general and the PBS in particular lack sufficient statis-

tics on education and training performance. The latest Education Census is about six years old and the LFS and PSLMS do not contain much educational information.

In Pakistan, the NEMIS system is run by the AEPAM which has recently been placed under the authority of the MoET. AEPAM is responsible for consolidating yearly educational data (characteristics of institutions and student learner data) from the previous Federal Ministry of Education, and a range of public and private training institutions that lie below higher education level.

However, given the lack of authority, AEPAM has to rely on voluntary inputs for several parts of the education and training sector. This implies that most TVET institutions and courses are not included in the NEMIS database. Neither does the database provide student flow information, graduate information or school-to-work information. It is recommended that in consultation with the LMI cell in NAVTTC and other stakeholders (HEC, private sector, FBS, TEVTAs), NEMIS management should look into developing a work plan to extend its coverage to the TVET sector.

For LMI purposes, it is of utmost importance that TVET learners are classified according to the trade or occupation for which they are trained. Within the TVET Reform Support Programme, a start could be made by filling this gap with various statistics, preferably through consultation between NAVTTC, provincial education departments, the AEPAM, TEVTAs and the PBS. There is indeed a need for dynamic information, preferably gained by a panel describing the flows of students and learners through the educational and training system and into the labour market. Similarly, the content for flow of internal information within the education system also needs to be defined for the sake of an EMIS system as a module of educational management.

In TVET, such content definition is underdeveloped but first steps have been taken in the right direction. Currently, for example, the Enterprise Resource Planning (ERP) is under development which contains various modules, namely:

- a) financial and human resources,
- b) fixed asset & inventory management, and
- c) student accounting.

It covers all levels of the public TVET system in Sindh and aims at improving its governance. The student/learner part of the MIS system covers internal educational processes like student performance information but information on school-to-work transition is not yet included. The next planned step now is to expand the EMIS system to TVET.

From a labour market point of view, educational information is especially relevant for the vocational guidance, counselling and job placement function. It can also help provide feedback to the TVET providers on the quality of training imparted. Hence, in order to develop an effective labour market information and analysis base in the country, the EMIS should strengthen its outreach to private and public sector TVET providers. This way, trade-specific

information about enrolment, dropouts, repeaters and pass outs can be captured more accurately on a regular basis.

Yet another area that may be explored by the TVET authorities is the development and gradual integration of the Geographic Information System (GIS) for inclusion of location and region-specific LM and TVET related information.

A cooperative mechanism should also be developed by the NAVTTC and AEPAM (EMIS) whereby TVET related information is provided to the LMI Cell. The EMIS management should look into developing a work plan in consultation with NAVTTC and should explore the possibility of provincial TEVTAs extending their coverage to the TVET sector. For LMI purposes, it is of utmost importance that TVET learners are classified according to the trade or occupation for which they are trained.

Such a cooperative mechanism can provide answers to the following important questions:

- To what extent does the TVET system satisfy quantitative and qualitative demand in the labour market?
- Is the LMI mechanism adequate at the appropriate (district) level to provide policy guidelines for changes in the student/learner capacity of the TVET system?
- Can the LMI mechanism adequately signal changes in learners' occupational and training choices and relate them to the labour market (demand and discrepancy)?
- Is the LM and TVET related information readily available by locations or regions through a well set-up Geographic Information System (GIS)?

From a technical point of view there are different ways to measure EMIS indicators. Measurement through continuous integration in (computerised) administrative systems of the TVET institutions (and Trade Testing Boards) will be the most efficient way to generate sound information. Student and graduate surveys (tracer studies), on a sampled basis, may add to this information. If a panel perspective is used, a repeated measurement of the labour market position among TVET graduates could be considered. However, it is likely that there will be serious restrictions because of repeated measurement considering the high non-response rates in a recent TVET graduate survey which was held in Sindh province under the auspices of the World Bank.

It is proposed that the LMI cell in NAVTTC investigate these possibilities for further analysis in consultation with the PBS. It is important to consider that a Census is planned in 2012 in Pakistan which will likely interrupt the yearly schedule of the LFS, but not the PSLMS.

In summary, it is proposed that the LMI cell should cooperate with the PBS for the following:

- re-analysis of previous LFSs and PSLMSs with a focus on the dimensions relevant for TVET regarding special studies (for proposals, see chapter 4);
- introducing more differentiated classification in new LFSs, PLSMs, and in the establishment of surveys;

- adding questions to these surveys for similar purposes.

Which questions are to be added and in which order of priority, should be the subject of consultation between NAVTTC, the PBS, the TVET Reform Support Programme and the provincial TVET authorities. Some elements worth considering are as follows: income categories other than wages in the LFS, school-to-work information, company size, labour mobility (e.g. labour position one year before), perceived needs of skilling, and willingness of workers to work more or less hours.

Apart from the PBS, some other federal organizations can also be involved in the organization of the LM data collection. The FPCCI, NTB, NADRA, EFP, WEBCOP, SDCs and SMEDA are all relevant organizations. Several of these organizations have been visited and it has been discovered that their involvement in collecting and analysing LM data is marginal at the moment, and usually on an ad hoc basis at best. NADRA has the potential to play an important role in gathering educational and occupational information when registering people, especially now that they issue electronically produced identity cards for the population. However, it will take a huge amount of effort to keep individual data up-to-date, which is likely outside the scope of this TVET reform programme.

LM data collection activities have recently been started in the provinces of Punjab and Sindh. A TVET oriented LMIS may be developed from these activities. Provided that data collection, analysis and use will be well-coordinated, this may guarantee the establishment of a sustainable LMIS. Several visits to both these provinces revealed a number of noteworthy aspects that are summarized below.

Punjab province

Punjab TEVTA started skills mapping surveys in all its districts in 2010/11 during which many companies were visited and interviewed. Sialkot district was used as a pilot and LCCI and other CCIs facilitated the surveys. But, in spite of the facilitation efforts, the interviewers faced many (non-response and reliability) problems in collecting information from the companies. This indicates that a written questionnaire or online approach will only be successful after strong promotion by business associations. The results were then laid down in skill-mapping reports. The reports, compiled per district, contained information on several subjects:

- elaborate general background information,
- economic situation,
- available TVET structure (however no graduate information per trade, no inflow information and only some enrolment information) - there is a need to upgrade this in consultation with NEMIS;
- an industrial profile with a focus on the most important industries, but not much attention on the service sector;
- employment/ labour information is presented in the LFS, the establishment surveys, living standard surveys or MoLMP data;

- the chapter ‘Data Analysis and Skill Mapping’ relies on company visits, interviews and forum group meetings. According to the consultancy company Multiline Group, coordination with companies proved to be difficult;
- on the basis of forum group discussions, a ranking of high-in-demand skills and trades was made (but only limited quantitative indicators are given). These include G-levels of TVET;
- some rough estimates of the rate of filling new and replacement demand by TVET graduates is made; and
- a final table gives rough estimates of tentative labour required in the next three years (which likely refers only to new demand). The number of vacancies is, however, not measured.

A consultancy company named Multiline has developed an online placement system which was demonstrated at a stakeholder workshop in Islamabad in 2011 and covers the whole province. The target groups for this system are TVET graduates and employers requesting skilled labour. TEVTA placement officers are in charge of promoting the system and gaining the interest of the employers. Up till now, only 500 jobs have been registered under this system and not more than 2,000 job-seekers, even though the system provides services free of charge

This coverage is low, and recent developments show that a year after its technical development, the system has already ceased being operational. This is most likely a failure of sufficient planning to raise awareness about the system and promote it widely. In its current shape, reporting modules are envisaged in the system which will give statistical information on a regular basis. However, description of skills and occupations is not pre-defined for both sides (supply and demand), and may need some streamlining to make it more practical and useful for statistical treatment (e.g. it may be streamlined to better align with classifications used by FBS). Punjab TEVTA plans to start advertisement statistics to indicate the nature and number of vacancies as well as the need for skilled labour demand. Similarly, they are also planning to conduct regular tracer studies.

At the moment, much of the work is done by Multiline. They have made suggestions regarding the capacity of a unit within TEVTA to run the LMIS (10-12 staff), and circa 100 additional staff at district level (placement officers and industrial advisory groups). The formal acceptance of the products of the consultancy company by P-TEVTA has been on hold for several months due to a disagreement between P-TEVTA and the company. As a result, the planning of LMI work in P-TEVTA is also suspended. A work plan for a properly structured LMI unit in TEVTA will be one of the first tasks now when planning resumes. It is likely that new staff will also need to be attracted and trained since none of the available five professional staff members have sufficient labour market expertise.

PVTC in Punjab province is a *Zakat*-funded vocational training body that had about 200 institutions at the end of 2011. PVTC covers 44 trades from all sectors of the economy, including health and education. It has trained about 162,000 trainees since its inception. There is an annual capacity of about 31,000 trainees, 90% of whom are from poor families and get training free of charge while the rest have to pay a course fee. Courses are practice-oriented with 80%

practice and 20% theory. The programme also include a two-month internship for all. The duration of the courses can be 8 or 14 months long and the target age group is between 16 to 49 years, but pre-dominantly young people from poor families join the programme.

As part of the vocational training, PVTC also assists in finding jobs for its learners. A strong infrastructure of Application Placement Officers exists in all training institutions. They assist in SNA (Skill Needs Analysis), finding internships, and placing certified learners. Additionally, PVTC assists in starting individual businesses, e.g. by providing equipment. It has tried to incorporate an aspect of social responsibility in entrepreneurship by encouraging its young businessmen to combine practical entrepreneurship with doing social work. However, it faces some problems of formal recognition of its certificates. The training institutes have Institution Advisory Boards with strong industry participation. These institutes also implement regular teacher industry training to keep them up-to-date with latest developments.

The results of a 2011 SNA survey, although carried out for all sub-districts in which PVTC works, show that much of the information it has is only qualitative in nature, and the methodology of the survey is unclear. The SNA survey report provides information on priority trades for vocational training, the different sectors and training institutions. However, there is no information on enrolment per trade, inflow, outflow of graduates, or course-to-work transition information.

PVTC has a graduate tracking system included in its MIS that tries to assess job placement rates and the quality of training received. Based on this system, the Council reports relatively high placement rates of about 70% and this is credited to their success in establishing good links with LCCI and other business associations. However, it puts information-sharing at a low priority and it remains infrequent. For example survey reports are not published on its website at <http://www.pvtc.gop.pk/Statistics/VSt.aspx>.

Future LMI work in Punjab also needs to be coordinated with work done under the DFID financed Punjab Economic Opportunities Programme (PEOP), running from 2010/11-2014/15 in the southern districts of Punjab. This programme contains several skills development elements.

Similarly, the CIWCE, under the Labour Department of Punjab province, has a major focus on education and training. It also incorporates awareness and research in the areas of occupational health and safety, and environment and industrial relations in its trainings. One of the projects currently run by the centre is a LMI project. Establishing a LMI and Resource Centre is a five-year project – running from July 2011 to June 2016 – of the provincial government with approved funds amounting to 65.722 million rupees. It is included in the Annual Development Program (ADP) of the Punjab province. District-wise information, initially for two districts as a pilot, is planned to be collected on the following issues/variables:

- Who enters the labour market,
- Which occupations/skills are available and what are the future needs or trends,
- Wage earnings,
- Work hours,

- Unemployment rate/re-skilling needs,
- Employment ratio,
- Employment trends and identification of emerging & diminishing sectors
- Job seeker information

Through this project, the CIWCE also plans to develop district profiles with regard to “Labour Laws Enforcement & Compliance”.

Initially, existing information from various departments, both published and unpublished, will be used to develop labour market profiles at the district level. The centre at the moment, however, does not have well-outlined plans to collect additional information through surveys, but it is planning to involve former managers of employment exchange offices in the process. It also has plans to revive career guidance and placement services. Furthermore, it sees the need for effectively integrating other stakeholders in particular P-TEVTA, but no contact had been made by the time CIWCE was interviewed for this report.

Similar coordination is needed for implementation of the World Bank-financed project ‘Promoting Cluster-based Skills Development’ in Punjab. This project will be implemented in collaboration with P-TEVTA. The project document⁵ envisages a number of activities which require SNA. For example, the establishment of 22 career centres to provide placement services to TVET graduates will likely require local labour demand information.

Sindh province

In Sindh, a process of reorganisation is currently underway with regards to Labour Market Information & Services (LMI&S). The responsibility for conducting surveys and collecting statistics, which was previously under the Directorate of Manpower and Training (DM&T), has now been transferred to the S-TEVTA along with the staff. With this transfer, the S-TEVTA has also been made responsible for producing relevant publications and conducting surveys of the DM&T, for example, in the form of Survey Report of Annual Establishment Enquiry (AEE). Currently this is, however, a poorly organised activity with high non-response from the various establishments.

With this transfer of responsibility, it seems that the ease of conducting AEEs and access to the companies that was hitherto available to the DM&T by virtue of being part of the Department of Labour will remain problematic until some legislative or administrative support is provided to S-TEVTA. It should be noticed that the Manpower Survey Offices (MPSOs) – important for conducting AEEs – remain part of the Employment Exchanges of the province. The Director of the M&T also holds dual responsibilities/charges. He heads the DM&T and is also the Director of Manpower and Training in TEVTA.

⁵ P-TEVTA, Promoting Cluster-based Skills Development in Punjab, Project Concept Clarence Proposal for TA, February 2011

A visit to the employment exchange office on-site revealed that this office focuses on collecting vacancy information from employers, mainly through field visits by the Manpower Survey Offices and by registering newspaper information. It also registers the unemployed who are looking for jobs, mostly consisting of the unskilled or lower skilled workers. Placement activities and vocational counselling for the unemployed is limited at best. With bare minimum amount of computerization, the office can only keep track of a very small part of the market in a labour market that is dominated by a high number of unemployed compared to the number of vacancies available. All functions of the office are rather basic and limited in scope. No LMI on developments per sector other than anecdotal evidence is available and the office is not in the position to collect LMI for its own or other's work purposes. The characteristics of vacancies and jobseekers registered cannot be used at the moment as a basis for labour market demand and supply indicators.

However, there is a potential for further development provided that the process for registering vacancies is improved and placement services made more effective. This would require computerisation, networking with other organizations, and capacity building of the staff for various functions (including assembling of labour statistics at the district level). There are 17 employment exchange offices in the province of which four are in Karachi. Their future status under the Labour Department, and the relationship with S-TEVTA, is under discussion. It is to be noticed that training institutions are setting up counselling and placement services for their students and graduates. Their coordination with employment exchange offices is also recommended.

The Directorate of Labour in Sindh is responsible for maintaining industrial peace, regulating and registering trade unions, acting as a mediator and providing protection to workers. These functions are performed by the Labour Inspectorate. The Directorate publishes an annual yearbook. The last one, however, was produced in 2000.

At the moment, such a yearbook for 2011 is under publication. This publication does not contain much LMI, not even for areas which are under the Directorate's authority, e.g. working conditions and wages. Moreover, most of the data is not statistical in nature; rather it refers to company records with some employment figures and product information. The employment figures do not add to the annually published establishment survey by DM&T. It seems that the Provincial Minimum Wage Board in the Department of Labour published minimum wages for skilled and unskilled workers by occupation simply from the official Gazette.

S-TEVTA has embarked on a new system to collect LMI from grassroots level by allocating tasks to the training institutions under its authority under the coordination of district offices and the S-TEVTA Head Office.

265 public TVET institutions, previously under the authority of the DM&T of the Labour Department, the Education Department and the Social Welfare Department have been brought under the umbrella of S-TEVTA.

Institute Management Committees (IMCs) have recently been established in each TVET institution. These are headed by a representative of the industry from the local area. In fact, the majority of the members of the IMCs are drawn from the private sector. The purpose of these IMCs will be to provide information on local labour market needs.

Currently, the plan is to use in-training institution's new software, the "Enterprise Resource Planning" (ERP), which has various modules, namely: a) financial and human resources b) fixed asset & inventory management, and c) student accounting. The aim is to provide S-TEVTA headquarters, the regional districts and the training institutions with management information which will allow for improved governance. Already an electronic monitoring system has been established in about 100 TVET institutions which will be used to:

- a) monitor daily staff attendance,
- b) manage leaves,
- c) provide auto-explanations, and
- d) conduct performance evaluation of the (training) staff.

Ideally, a LMIS for Sindh province will be linked to this ERP system, however, that needs to be investigated further.

As a part of an ILO supported project, the S-TEVTA is in the process of establishing a LMIS and TEVT Research Cell. The ILO will be requested for technical expertise to upgrade the LMI and propose suggestions for S-TEVTA. However, the current hurdle to this is that unlike Punjab, it does not seem that S-TEVTA is planning on taking stock of existing sources of information and data to be able to integrate data collection in the establishment surveys.

The World Bank has started to support Sindh by strengthening its training programmes to improve the skills and employability of trainees.

Quoting from the appraisal document:⁶ *"...the project seeks to benefit 50,000 youth in Sindh through skills development. The trainees will be between 18 and 35 years of age. Beneficiaries will be informed via province-wide information campaigns and selected based on meeting the minimum criteria for the particular training program and testing of basic skills in the case of excess demand. The target group includes semi-literate men and women. Most courses require 10 years of schooling or less. A small share of the trainees will be unemployed youth with 12 years of schooling that will be assisted to transition from school to work. The majority of the trainees, 45,000, will be trained through a short term training program, while around 5,000 will be trained through institutional training programs during the Project period. There will be a specific focus on selecting youth from the poorer and less developed districts of Sindh. The program will specifically offer young girls opportunities for skills development. Future trainees enrolled in the established market driven institutional training program will also benefit from the investments made during the Project. In addition, the program will benefit the competitiveness of the companies hiring the skilled labour."*

⁶World Bank, Project Appraisal document for Sindh Skills Development project, May 2011

It is envisaged that strong linkages will be made with the industry to achieve the project objectives. SNA, tracer studies and measurement of placement rates are foreseen. LMI data collection in Sindh province may call for coordination with surveying activities for these purposes.

With the support of the ILO and the World Bank, the TEVTAs in Sindh (and KPK) have started to introduce career guidance and job placement systems however it is still too early to estimate the efficiency and access of these systems. Apart from these, there are also a number of job placement systems which are run by private schools and to which only a few people have access.

In 2010, the Sindh TEVTA started to plan for the creation of 5 career guidance and job placement centres in each region. However, it is not clear how far the execution of this plan has reached.

The Khyber-Pakhtunkhwa TEVTA also has plans to create a job placement programme where job seekers can be registered and matched with vacancies in the labour market. These examples show that there is an awareness of the problem and that this project has the potential to develop in a sound manner.

3. Proposed institutional setting of LMI for the TVET sector in Pakistan

3.1 Introduction

As the apex body for TVET development, NAVTTC is requested to contribute actively to efficient development of TVET, first and foremost by ensuring that TVET demand and TVET supply match. It needs to be ensured that existing TVET capacities are fully utilized for competency development to meet the requirements of the labour market. NAVTTC must also work closely with stake holders to ensure that any extension of capacities that are made will cover the workforce needs of the economic sectors and the region in terms of both quantity and quality.

To be able to achieve these goals, NAVTTC needs to have updated information about the supply of skilled workforce (for example, data on enrolment, drop outs, finalist and their employability, employment rates, self-employment rates, recruitment salaries, career opportunities of recruited staff, satisfaction of employers with the finalists' performance etc). It will also need information on the needs of the different sectors regarding the number of workforce and their qualification levels. Analysis of tendencies and discrepancies between supply and demand will allow NAVTTC to efficiently manage the mid- and long-term TVET system development.

It is assumed that since devolution, more policy making and implementing competence has been transferred to the provincial level. This is important because developing a LMI at the

provincial level not only requires TEVT Authorities but also needs involvement of various other public and private stakeholders as well.

It should also be noted that the private sector is not well organized at the provincial level. For the LMI, the private sector needs to play the most important role in providing data about employers' need and capacity. In this role as an important contributor to the LMI, the private sector is organized in 40 CCIs under the umbrella of the FPCCI (with three offices). There are also about 130 sector associations (some of which have regional branch offices). Sector associations are members of FPCCI as well as local CCIs however, membership of companies in sector associations is voluntary and it is likely that the informal sector and small enterprises are hardly represented in them. Firms dealing in imports and exports, however, are probably well represented. Thus, while trade and industry are well represented in the CCIs, other services and smaller businesses are not so much.

The Employer's Federation of Pakistan participated in a workshop on LMI in November, 2011 in Islamabad organised by NAVTTC and the project. They have expressed their commitment to facilitate their members in LMI data collection and use. However, at the moment they are not engaged in LMI on their own initiative or for their own purposes.

All this information is important for the design of methods to collect (demand related) labour market data and establish an institutional set-up of a LMIS. It should also be realized that the TVET sector is fragmented and that there is a strong need for coordination at the provincial and federal level.

In the framework of gathering LMI, training institutions will have a key role; therefore it is necessary to include private training institutions like Skill Development Councils, NGOs that are delivering training, companies' training departments, etc in addition to the formal public training institutions. These are all organizations that need to use LMI and may also be involved in the process of data collection.

There is also a need to clearly define the division of tasks between different public organisations with regards to processes that generate new LMI information, especially between the Labour Department and the TEVT authorities. This also applies to some extent to the provincial departments of education in their role of managing parts of the education system besides TEVT.

Currently, it seems that provincial Labour Departments (except labour department Punjab) are barely, if at all, involved in collection of LM data as mentioned in Table 1. However, they may be willing to collect LMI even if their level of interest in knowledge skills and TEVT is lower than TEVT authorities. In exploring these possibilities, clear roles for these public organisations in building a LMI should be defined so that the most cost effective method of data collection and avoiding duplication may be adopted.

3.2 Role of provinces

Provinces can play an important and substantive role in developing an LMI System if their capacities are properly utilized. The role of provinces envisioned in this report stipulates that a LMI unit be established in the TEVTAs in each province. Each LMI unit will consist of two to five professional staff members, depending on the size of the province. The heads of the provincial and NAVTTC LMI units will be members of an interprovincial LMI working group. This group will advise on the development and implementation of LMI for each province. The group will also advise on the harmonisation of provincial work plans for LMI and promote the exchange of best practices.

The interprovincial working group will also encompass representatives of the private sector who will be in charge of supporting the generation of LMI information at the grassroots level. It is recommended that the PBS staff in charge of labour statistics also be represented in this group.

The group will be facilitated by the TVET Reform Support Programme staff in capacity building and development of methodology e.g. in designing survey questionnaires, sampling and data collection. The chairperson of the group will either be the Head of the LMI cell in NAVTTC or TEVTA, Punjab (in the case that Punjab is assigned a leading role in supporting other provinces). The secretariat of the group will be the LMI cell at NAVTTC. The group will regularly consult representatives of key stakeholder organisations in the TVET sector, especially those that are functioning at a national level.

To perform these functions, the interprovincial working group should meet more frequently in the first phase of the project but quarterly thereafter. To maximize effectiveness, it is also recommended that the group synchronize its work during the first phase with the PSD-AP development process as much as possible.

3.3 Organisation of LMI within a province

At the provincial level, each LMI unit will establish a work group consisting of representatives of key implementing organisations for data collection. The composition of the work group will therefore depend on the identification of these data collection organisations. Where necessary, research and consultancy organisations involved in LM analysis will also be included in the provincial work group.

The tasks of a provincial group will be to assist in collection and provision of data and information at the provincial level, promote the analysis of this data, and assist the provincial LMI unit in dissemination of LMI to the relevant stakeholders within the TVET sector.

The following organisations and their representatives are some of the potential candidates for inclusion in the **provincial working group**:

- Chairman, TEVTA (LMI unit),

- three representatives of the private sector, e.g. a CCI representative, a sector association representative and a SME representative,
- Department of Labour and Manpower,
- Department of Education,
- Provincial branch office of the PBS,
- one or two representative(s) of (key) public TVET training institutions,
- one or two representative(s) of private training institutions,
- a SDC representative,
- representatives of one or two key NGOs working in training or employment creation.

The selection of organisations for the working group may differ from province to province depending on the relevance of the organizations to the work of LM data collection and analysis. Sufficient private sector involvement is, however, crucial for good implementation of any data collection plan. It would be the responsibility of the CCIs to ensure private sector involvement. In some provincial capitals (like Lahore and Karachi), these CCIs have established research departments that have mainly dealt with sector based economic research up till now. But they may be in the best position to act as liaisons for LM data collection. Some CCIs (as in Lahore) have established help desks to assist TEVTA and training institutions by developing links with the private sector.

Like the interprovincial working group, a provincial group will meet as often as necessary for the implementation of the LMI work plan. However, it will have to meet more frequently in the start-up phase.

Another area for consideration is if a separate and permanent working group should be created at the provincial level for users of LMI. However, it is likely that organisations that are involved in data collection will also be the key users of LMI and therefore it is best to not separate these two functions. Other users in the public (e.g. line ministries for different economic sectors) and private sector organisations (companies, trade unions etc.) may be identified and consulted on their LMI needs on an ad hoc basis.

3.4 Private sector involvement

Private sector involvement in LM data collection should be institutionalized to enable implementation of work plans that are in line with various TEVTAs' objectives. It should be stressed that LMI not only benefits policy formulation and implementation by the TEVTAs, but is also useful for the private sector. The private sector can gain great benefits from insights into the labour market that a sound LMI can provide to be able to invest in sound human resource development and ultimately, also utilize a better skilled work force.

Private sector involvement may require the signing of Memoranda of Understanding (MoU) between provincial TEVTAs, CCIs and sector associations. Such MOUs will allow clear delineation of roles and activities that will be organized in cooperation with the TEVTAs, espe-

cially in the areas of data collection and dissemination of LMI. A Memorandum of Understanding will also contain clauses on confidentiality of collected data, responsibilities for data analysis, ownership of publications, access to stored and analysed data and LMI, and ways of dissemination of LMI to the users.

Representatives of the private sector have a special responsibility to convince their member organisations (companies) to participate in LM data collection, especially in the measurement of employment and skill needs. Active private sector participation will be helped by specific efforts to ensure transparent data collection procedures with minimal administrative charges so that an adequate response rate can be obtained in employer surveys, etc. Additionally, this should be backed up by intensified relationships between training institutions and companies to develop programmes for student internships, apprenticeship training, assessment of curricula, job placement of TVET graduates, hiring company staff as guest trainers, and technical teacher training programmes.

Some countries, like the Netherlands and UK, have organised the private sector involvement in TVET policy and implementation on the basis of sectors. A similar organization can be taken up in developing and implementing strategic targets of TVET policies or in developing the LMI. At the moment, neither is the private sector sufficiently organized nor sufficiently involved in TVET policy to allow for such an approach in LMI. This, however, does not disallow giving private sector a leading role in data collection and experimentation in the labour market during the pilot period, and this may also encourage others to also join in.

The involvement of the private sector in LMI is especially relevant for the demand side of the labour market, more specifically for the organisation of employment surveys, employers' panels and focus group meetings. Table 1 above shows that for many variables, employer surveys are a prominent instrument for data collection. However, experience with employers' surveys in Pakistan show that response levels will usually be low unless intensive efforts are made by branch organisations to ensure the participation and commitment of their members.

There are some alternatives with each having some advantages and disadvantages:

- Starting the establishments of advertisement statistics at the district level. Even though advertisement statistics tend to be biased towards higher skill levels and show higher representation of the public sector, they can provide useful information and are relatively cost-efficient. They also do not require complicated data collection procedures or be vulnerable to the risk of high non-response rates. However, a disadvantage is that only a few characteristics are usually mentioned in advertisements and they do not give sufficient information for a comprehensive analysis.
- Statistics of manifest demand and supply may also be derived from a placement system as has been developed by Punjab. Figures can be directly differentiated by district and potential labour supply across district borders can also be identified (in principle). Note that a placement system, if well designed, may also allow for analysis of job

seekers' behaviour and demand to supply matching information. The statistical reports of the placement system to be generated by the system may be followed up in terms of an electronic or telephonic questionnaire.

3.5 District level

The primary purpose of training institutions is not to collect data in the labour market, however, since information on labour market is so important for what they do, these institutions should be the first ones to be interested in an LMI. Training institutes would also have a strong management interest in the quality and effectiveness of their training courses. Strengthening linkages between the private sector/companies and training institutions is therefore of utmost importance.

The IMCs established in Sindh are already headed in this direction as there is evidence of growing partnership and cooperation between TVET providers and users⁷ - although they are not yet fully functioning. Similarly, the initiative to appoint senior staff as industry linkage officers or career and placement officers (CPOs) in some provinces (with Punjab leading the way) should be encouraged for all training institutions.

The job description of CPOs, however, seems to have been limited. Their focus is on the specific task of searching for internship or apprenticeship programmes and of discussing curriculum improvement with companies. It is proposed that in their job description a coordination task for LM data collection be included.

This may refer to:

- promotion of skills mapping through employer surveys and focus group meetings;
- coordination of periodic tracer studies (usually once per year);
- collection of information about changes in skills demand and the quality of TVET training through creation of regular, institutionalised contacts with the industry, and in the management of apprenticeship and internship schemes;
- networking with other training institutions in the district with regard to skills mapping and tracer studies;
- networking with private sector representatives (CCIs, branch organisations) for skills mapping purposes.

The analysis of data and information collected by Manpower Service Officers, posted in Sindh TEVTA, may either be tasked to continue or their functions can be shifted to LMI units in the TEVTAs. Allowing training institutions to do initial and simple analyses of collected data will directly benefit the management of the training institutes.

⁷ For details with regard to Sindh, see www.stevta.gos.pk/scdp.aspx?cd=4

Alternatively, the coordination of labour market data collection and its analysis could be allocated to TEVTA district offices, as far as they exist, provided that these offices have sufficient administrative capacity.

Another arrangement may be to delegate data management to a single TVET institution in the district, or a CCI, or to outsource it to a consultancy company or research institute. Delegating this responsibility to a CCI may have the added advantage of greater inclusion of the private sector in data collection. However, in this case too, the question will be whether a CCI has sufficient administrative and professional capacity to take on such a responsibility or not.

3.6 Specific work for the supply side of the labour market

Although the demand side of the labour market is the priority for LMI, supply side information has to be taken into consideration as well. A comprehensive overview of the supply side, including trends in labour supply per occupation or skill category, would be rather ambitious.

Ideally, flows of supply into and out of the labour force are measured on the basis of LFS or Household Surveys. An overview of the output of the TVET institutions and programmes per skill category/occupation may be designed, preferably in a retrospective manner, for a number of years in order to identify trends in TVET output. This would become part of an EMIS system for TVET. Key dimensions of these outputs will be: gender, age, drop-out versus graduation, and type/ level of certificate or diploma achieved. Later, background information may be added (previous education/ training, training performance indicators, etc.).

It is believed that most of the labour supply information can be collected from training institutions, provincial TEVTAs, district offices and Testing Boards and other such stakeholders in the TVET sector. This will have to be supplemented with demographic and labour information from the PBS and provincial Departments of Labour and Education. Tracer studies will be crucial for delivery of school-to-work transition information. Data collection on the supply side will be easier to manage than on the demand side since more administrative sources are already available for data collection.

3.7 Discrepancy indicators

Unemployment and underemployment figures for graduates of training programmes are relevant indicators of labour market performance of TVET programmes. They can be measured through tracer studies. Underemployment reveals time-related underemployment (measured as number of hours worked per week against a full-time work week). As important as underemployment, however, are indicators measuring to what extent graduates find work in the occupations they have been trained for. The LMI cell in NAVTTC, in cooperation with the PBS, may engage in the analysis of training/education versus occupation matrix, and identify changes in this matrix over time as a special study.

Given the fact that currently, hardly any public employment services exist (except in Sindh and maybe KPK) that can provide statistical data on demand and supply and especially on vacancies and unemployment or job seeker information, knowledge of discrepancy indicators can be very important for reforming the TVET sector.

As mentioned before, advertisement statistics and reports derived from (internet) placement systems may not only be used to identify labour market demand but also shortages in the short run. They can then be followed up with sampled surveys among employers to trace difficulties in filling vacancies.

Tracer studies are of utmost importance in measuring the possibilities for graduates and learners to find work and to measure training performance from a qualitative point of view. Sampling procedures (two-staged or direct sampling) may be used by training institutions in order to make the data collection cost-efficient. These studies should include all branches of training and types of courses and the studies should be repeated periodically. However, whether the tracer studies should aim at one-time measurement or be based on panel surveys should be decided after consideration. Another possibility for collecting sound information and data is to conduct reverse surveys where tracer studies of graduates are combined with surveys of employers' opinions on the training quality and skill gaps of young people

3.8 Summary of actual and potential data and LMI providers for NAVTTC

Table 2 presents an overview of the organisations which can and should be involved in a full-fledged LM data collection system. This table also gives guidelines for how these organisations can be involved in the inter- and intra-provincial work groups.

Table 2; Overview of organisations to be involved in LM data collection

Type of data/information	(potentially) to be delivered by	
	Federal level	Provincial/local level
Contextual information	FBS, NIPS, Ministry of Finance, Ministry of Industry, Planning Commission, EFP, FPCCI	Provincial Planning and Development departments, Business Associations, Donor support programmes , e.g. PEOP
Labour demand (quantitative)	PBS	Provincial labour departments
Educational, skills and occupational needs	PBS, FPCCI, EDB, EFP, WEBCOP, Ministry of Industry	Business Associations, CCIs, Training institutions, SDCs, PSDF, PVTC in Punjab
Labour supply (quantitative)	PBS, NEMIS, NIPS	Provincial Labour departments, Provincial TEVTAs, Provincial Education departments
Labour demand abroad and labour migration	BEOE, POF, POEPA, MoHRD	Regional offices of BEOE, Members of POEPA
Mismatches in the labour market (vacancies, unemployment, underemployment)	PFBS, EFP, FPCCI	Provincial Labour departments, Business Associations, District CCIs
Quality and labour market relevance of training	EFP, FPCCI	Business Associations, TEVTAs, Training institutions, SDCs
Labour mobility and creation of jobs	PBS, EFP, FPCCI	Provincial Labour departments
Educational information (students, learners, training institutions)	NEMIS, HEC, National Test Board	TEVTAs, Skills Development Councils, Training institutions

4. Role of NAVTTC in generating, analysing and disseminating LMI

NAVTTC can comply with its mandate only through cooperation with provincial bodies functioning in the TVET sector, and representatives of the private sector. This requires that LMI functions are developed with input of the stakeholders and organised within a well-structured network that provides the needed data and information to NAVTTC.

Under ideal conditions, if much of the LMI is well-entrenched in and generated from other organisations and at other levels, the LMI cell in NAVTTC may be limited to merely three professional staff who are supported by IT and administrative staff of NAVTTC.

The role of NAVTTC in generating LMI would be that of a coordinating and analysing agency at the federal level that exists within the specific framework of TVET policy. NAVTTC would be responsible for giving methodological support and ensuring quality assurance in monitoring the implementation of LMI work plans. It will use labour market analysis for steering the development of the TVET sector and advocating for making it a more important element in Pakistan's development.

Additionally, NAVTTC may be charged with:

- promotion of private sector involvement in LMI provision at the national level and of (TVET focused) labour market data collection by the PBS,
- implementation of labour market studies that cover multiple facets of the market and aggregate and integrate provincial information into a national framework, and
- promotion of the use of LMI and awareness creation on a nationwide scale (e.g. through providing online access to a national database with sub-links to provincial databases under TEVTA). Part of the methodological guidance will also be the preparation of schemes for analysis of administrative data and surveys.

Within NAVTTC, the specific task will be to provide its board and management with regular and relevant information on labour market developments (e.g. in annual reports or in specific reports upon request). It is assumed that LMI will be electronically stored and organised such that it will form a module in the Management Information System (MIS) of NAVTTC that will be a repository for all things LMI related and will also contain information on linkages with training and educational information.

To summarise, the LMI cell of NAVTTC will be a service organisation for NAVTTC and the TEVTAs. This will be an important database and service since both NAVTTC and the TEVTAs will rely on the LMI for data and information received from the provinces. It will also have the following functions:

- to coordinate the implementation of LMI plans at the provincial level through participation in a provincial working group;
- to provide methodological guidance to LMI units and implementing organisations;

- to monitor progress in implementation of TEVTA LMI plans;
- to design, fill and regularly update the LMI module in the MIS system of NAVTTC;
- to draft and publish (annual) LM reports for TVET policy makers and users, especially for the NAVTTC board and management;
- to design, outsource and supervise specific labour market studies;
- to maintain a website with data information for public and restricted use;
- to participate in the network of LM data providers and users;
- to coordinate with the PBS as a key national data provider in LMI.

It is proposed that the LMI cell in NAVTTC be in charge of developing and implementing an overarching programme of specific labour market studies of national importance for TVET policies. Some topics for such studies can be:

- Labour market forecasting – occupation and skills oriented trends. This study will require time series data of sufficient length to be collected. Existing data (LFS and PLSM) will only allow for demand forecasting at a rather high level of aggregation;
 - Gender disparities in occupational profiles;
 - Gender, wage and income disparities;
 - Internal geographical labour migration;
 - Training needs of the informal sector;
 - Advanced analyses of wage/age/occupation profiles;
 - Individual rates of return on TVET (compared to other types of education). The relevance for an individual of investing in TVET to gain income can be studied using the Internal Rate of Return;
 - Social rates of return (SRR) of investment in TVET;
 - Labour market outcomes of TVET in terms of job placement rates. These outcomes may be benchmarked according to branch, level of TVET, type of training institution etc;
- Dynamic information on factors determining the flow of students and learners through the TVET system, and the outflow towards higher education and the labour market;
- Occupational mobility and factors influencing occupational mobility;
 - Inventory and evaluation of placement services for TVET learners and graduates. Note that in Sindh, establishment of placement services for TVET learners and graduates is already planned;
 - Labour market flexibility for skilled occupations, e.g., according to indicators developed by OECD⁸;

⁸ See for details a.o. the following websites and documents of OECD and ILO :

- Need for entrepreneurial training according to sectors and occupational areas;
- Indicators for access to and equality in TVET training, benchmarked against similar indicators for general (secondary) education.

5. Capacity Building

As suggested above, under this proposal, LMI units will be established at the provincial level and in NAVTTC. Given the fact that labour market professionals will be assigned to a limited extent in these units, capacity building will be necessary at various levels. As such, job descriptions for new and existing positions need to be created or revised. In Annex 1 are given job descriptions based on which recruitment procedures for new positions can be developed.⁹

Only after the LMI units have been designed and created can a capacity building programme at the provincial level be implemented. The TVET Reform Support Programme staff should take the responsibility of designing such a capacity building plan in close cooperation with NAVTTC and the TEVTA management. The plan should be based on analysis of current training needs and assigned and recruited staff and may adopt intensive mentoring or coaching to help develop capacities of new staff. Note, however, that in Sindh, other donors, like ILO or World Bank, might also be involved in the capacity building process. Similarly, labour department of Punjab started a five-year long LMI project recently that has been supported extensively by experts from LUMS. A capacity building programme organised by NAVTTC and GIZ should also take this into consideration.

There are also several other ways to approach capacity building. One method, with a wider scope, is to organize training programmes for the staff of all LMI units, the interprovincial working group and the proposed intra-provincial working groups. Such an approach can be especially useful in the Pakistani context where there is a general lack of labour market expertise, both tactically and strategically (with regard to use of LMI by decision makers) in the TVET system.

A more focused approach would be to have the TVET Reform Support Programme staff only train the LMIA-U staff in NAVTTC, who can then disseminate their knowledge to the provincial level. This will be feasible if the methodological guidance to be given by the LMI unit in NAVTTC is outlined in detail and the LMI work plans for the provinces are fully harmonised.

<http://www.oecd.org/els/employmentpoliciesanddata/oecdindicatorsofemploymentprotection.htm>, and: Danielle Venn (2009), "Legislation, collective bargaining and enforcement: Updating the OECD employment protection indicators", www.oecd.org/els/workingpapers, and: http://www.ilo.org/dyn/terminate/termmain.home?p_lang=en

⁹ See specifically Annex 1 for a labour market analyst in the LMI cell for NAVTTC.

Yet another option is to give Punjab, which at the moment already has more experience in skill needs analysis, a leading role in capacity building and disseminating know-how to other provinces. However, it should be noted that most of the expertise of Punjab is concentrated in one consultancy firm which is not involved in the work now being managed by the Punjab Labour Department.

However, as mentioned previously, a training-needs-analysis has to be the priority before undertaking any capacity building plan. Once such an analysis is completed, capacities can be developed in the following areas over an 18 month period:

- A secondary analysis of existing statistics and administrative data to construct labour market (especially demand and discrepancy) indicators
- LM data collection methods, with especial focus on design and implementation of various forms of labour surveys
- Content-oriented IT capacity building for LMIS and EMIS
- Outsourcing of labour market studies, especially budgeting and drafting of Terms of Reference
- Design and implementation of a dissemination policy
- Use of LMI information at the strategic management level (federal, provincial and district)
- Use of LMI for specific functions, like vocational guidance and career counselling, student capacity planning, etc.

6. The way forward

It is proposed that a TVET oriented LMI system in Pakistan is developed in three phases: a six month start-up phase, a basic implementation phase, and an advanced implementation phase, with – broadly outlined – the following content.

Phase 1: Start-up phase (about 6 months)

The start-up phase will be composed of:

- Developing consensus amongst all key stakeholders, especially NAVTTC, provincial TEVTAs and private sector representatives on the structure of a LMIS. Draft proposals are to be produced by NAVTTC with support of the TVET Reform Support Programme staff.
- Establishment at the national level of the interprovincial LMI work group with representatives of a diverse range of organisations as mentioned in 3.2.
- Establishment of provincial work group giving priority to Punjab and Sindh, with representatives of a diverse range of organisations as mentioned in 3.3.
- The formal establishment, allocation of resources, recruitment of staff, and capacity building for the LMI cell in NAVTTC and the LMI units of the provinces.
- Drafting of a detailed, phased, work plan for LMI development by the interprovincial work group.

- Drafting of a detailed, phased, work plan by the provincial work groups of Punjab and Sindh, taking into consideration the already initiated LMI activities.
- Identification of the scope and development of the design of provincial LMI units in TEVTAs with priority given to Sindh and Punjab.

Phase 2: Basic implementation phase (1 year)

- Review of the most efficient delivery mechanisms for LM data from the grassroots to the provincial and NAVTTC level (jointly with provinces and private stakeholders).
- Methodological support to lower administrative levels regarding provision of forms, questionnaires, predefined tables for surveys and other ways of data collection at other administrative levels.
- Designing a reporting and dissemination plan for LMI, internally within NAVTTC and then for other stakeholders (including online publishing of reports and rules for giving access to data sets).
- Conducting targeted data collection using tracer studies or other methods for new LMI covering three key gap areas - identifying sectors facing skills shortages, measurement of TVET output in terms of graduates per trade/type of skill and placement rates.
- First exercise to make occupational demand/skill projections for prioritized sectors using existing data and limited employer surveys/forum group meetings.
- Designing a joint work plan between NAVTTC and FBS (and related stakeholders like Labour Departments in provinces) to enhance and improve regular employment statistics.
- Assessment and analysis of Punjab and Sindh TEVTA LMI systems to export their models to other provinces.
- First provincial and national LMI reports with policy recommendations to NAVTTC management and other stakeholders in TVET.

Phase 3: Advanced implementation phase (2.5 years)

The advanced implementation phase would include:

- Labour market analyses, that should be outsourced to research and consultancy institutes (e.g. PIDE) since international practice has shown that a unit like the LMI cell cannot and should not devote its capacity to detailed analytical research work. However, while outsourced, such analyses are still an integral part of the LMI cell and should be instituted as a permanent activity. For NAVTTC as well, such research would be fundamental to better understanding a number of important factors, like, individual and social rates of return, state of occupational mobility, estimates of earning functions for TVET related occupations, measurement and explanation of labour market flexibility, labour productivity analysis for sectors requiring many skilled workers, explanation of inflow rates into TVET training institutions, measurement and explanation of gender wage and occupation disparities, assessment of factors determining the labour market position of vulnerable groups, etc.

- Establishment of an institutional structure (provincial work groups, LMI units) for LMI in provinces other than Punjab and Sindh, and design of their work plans.
- Gradual enhancement of LMI data collection and data processing for predefined variables in compliance with priority questions and areas set by the interprovincial and provincial work groups.
- Building capacity in the use of LMI by NAVTTC management and stakeholder management at the provincial level (public and private).
- Regular LMI reports on the provincial and national level with recommendations on predefined TVET policy areas. Also, additional policy reports should be produced on specific labour market topics (see above).
- Regular dissemination of LMI to various target groups according to an agreed work plan. These target groups should include, but not be limited to, NAVTTC management, other public stakeholders at federal and provincial level, TEVTAs, private sector organizations, district organisations and training institutions.

Annex 1. DRAFT ToR for Labour Market Information Analyst for NAVTTC

Background

The Technical and Vocational Education and Training (TVET) Reform Support Programme in Pakistan is jointly financed by the European Union, the Kingdom of the Netherlands and the Federal Republic of Germany and implemented by Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH. The programme aims to improve access, equity and relevance of TVET in Pakistan. These objectives are identical to the objectives of National Skills Strategy (NSS) 2009 – 2013.

As a key element of coherent donor support to the NSS implementation, a Technical Unit (TU) is scheduled to strengthen the National Vocational & Technical Training Commission's (NAVTTC) capacities to steer and coordinate the implementation of NSS at federal and provincial levels.

The TU will be established for the four year duration of the TVET Reform Support Programme assistance. Specific tasks will have their own timelines, which the TU will be expected to observe. The TU will transfer knowledge and information in the following areas:

- development of the National Qualifications Framework, national occupational standards, curricula assessment and certification in accordance with labour market needs,
- accreditation of TVET programmes and TVET providers,
- TVET sector monitoring and evaluation, and
- TVET institution building in underserved provinces and regions.

The TU consists of 3 technical experts (2 senior and 1 junior). The Labour Market Information Analyst will be the next member of the TU and will be charged with the responsibility of strengthening the Labour Market Information Cell in NAVTTC, and thereby NAVTTC capacity to link TVET development to labour market trends.

Tasks and responsibilities of the Labour Market Information Analyst

Job summary

The Labour Market Analyst is responsible for providing support for the achievement of objectives of the Labour Market Information (LMI) Cell. The LM Analyst's primary job will be to assist the LMI Cell in defining its work profile and to perform Labour Market analyses that are needed to back up TVET policy decisions as well as occupational counselling and career guidance services.

He/she will support the establishment of a research-based Management Information System databank delivering reliable information for TVET planning and evaluation. Hence the Labour Market Analyst will be directly involved in the development and implementation of the TVET sector Monitoring & Evaluation system.

In line with the above, the tasks of the Labour Market Information Analyst include:

- Conducting a data needs survey to determine the requirements of TVET decision-makers at federal and provincial levels in cooperation with the Management Information System (MIS) staff in the TEVTAs as well as the international short term expert tasked to define the necessary labour market data and information.
- Designing short, medium and long-term capacity development strategies to institutionalize and consolidate the LMI component in the TVET MIS in NAVTTC.
- Developing technical know-how to analyze LMI data and arrange training for LMI users, giving priority to TVET policy makers, TVET programme planning personnel and Labour Market Service providers.
- Performing tasks necessary to develop and implement a TVET Monitoring and Evaluation system, such as implementing sector monitoring and evaluation procedures and processes such as:
 - organizing systematic training needs assessment surveys,
 - organising graduate tracer studies,
 - compiling reports and preparing them for publication.
- Identifying areas where LMI research related to achieving TVET objectives is required.
- Perform an active role in the development of a LMI system through engaging a network of various public institutions at federal and provincial level and private sector organisations to develop labour force characteristics and employment and unemployment estimates, in addition to compiling employment earnings, wages and hours, and interpreting labour market statistics.

Requirements

A masters degree in Economics, Education Management, Business Management, Information Technologies or related fields. Candidate should possess knowledge of the principles and practices of labour market analysis and have at least five years of experience in this field. He/she should have experience in conducting research studies as well as in descriptive and inferential statistics. He/she should know the available sources of labour market and occupational information and be able to prepare reports, analyze trends and communicate effectively in English language.

Assignment duration and location

The assignment duration is up to ... months. The workplace for this job is NAVTTC, Islamabad.