



A ROADMAP FOR THE DEVELOPMENT OF LABOR MARKET INFORMATION SYSTEMS

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WORKFORCE CONNECTIONS



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TABLE OF CONTENTS

ACKNOWLEDGEMENTS.....	i
ACRONYMS	iv
EXECUTIVE SUMMARY	1
I. INTRODUCTION	1
1.1 CONTEXT	6
1.2 STRUCTURE	8
1.3 METHODOLOGY	8
2. RETHINKING LMIS: AN INTEGRATED APPROACH FOR DEVELOPMENT.....	10
2.1 UNDERSTANDING LABOR MARKET INFORMATION SYSTEM	10
2.1.1 What is labor market information, analysis and intelligence?	10
2.1.2 The data-driven LMIS	12
2.1.3 The service-oriented LMIS	13
2.1.4 The integrated LMIS.....	14
2.1.5 Putting the system back in LMIS	16
2.2 LMIS LANDSCAPE REVIEW.....	16
2.2.1 The challenge of measuring and comparing LMIS	16
2.2.2 Key observations from the landscape review	17
2.2.3 LMIS in select countries	19
2.3 A TYPOLOGY OF LMIS.....	31
2.3.1 Determinants of the typology.....	31
2.4 LMIS TYPE 0.....	34
2.5 LMIS TYPE 2.....	36
2.6 LMIS TYPE 3.....	38
3. PATHWAYS FOR IMPROVED LMIS IN AFRICA.....	39
3.1 MAKING LMIS RELEVANT FOR THE EMPLOYER, JOB SEEKER AND POLICY-MAKER	39
3.2 ANALYSIS OF THE CHALLENGES AND OPPORTUNITIES OF LMIS IN AFRICA.....	40
3.2.1 Donor-led systems with limited sustainability.....	41
3.2.2 System ownership troubles	42
3.2.3 Little value and analysis	43
3.2.4 Ineffective dissemination of labor market information.....	45

3.2.5 Low levels of private sector participation.....	46
3.2.6 Absence of informal sector labor market information	47
3.3 THE PATH TOWARDS THE INTEGRATED LMIS “TYPE 2”	48
3.3.1 Ensure high-level support to build an integrated knowledge base	48
3.3.2 Ensuring high-level support	48
3.3.3 Exploiting existing sources of labor market information.....	49
3.3.4 Integrating analysis of the economic context and growth trends	50
3.3.5 Expanding knowledge of the informal labor market	51
3.3.6 Focusing more on local data	51
3.3.7 Developing new partnerships with research institutions	52
3.3.8 Strengthening private sector intermediation and participation.....	52
3.3.9 Embracing open data: preparing for real time LMIS.....	53
4. CONCLUSION.....	55
4.1 SUMMARY OF FINDINGS.....	55
4.2 WHAT ROLE FOR THE AFRICAN UNION IN SUPPORTING LMIS DEVELOPMENT?	56
REFERENCES.....	57
ANNEX 1: INSTITUTIONAL FRAMEWORK FOR LMIS DEVELOPMENT IN AFRICA.....	61
ANNEX 2: OVERVIEW OF LMIS TECHNICAL ASSISTANCE	65
ANNEX 3: INTERVIEWES.....	68

ACRONYMS

AAPA	Action for Statistical Development in Africa
ACS	African Charter of Statistics
AJCC	America's Job Center of California SM
AU	African Union
AUC	African Union Commission
AUP	African Union Partnership
BOCCIM	Botswana Chamber of Commerce
CAEMU	Central African Economic and Monetary Union
DHET	Department of Higher Education and Training
DW	Decent Work
ECOWAS	Economic Community Of West African States
ESA	Employment and Support Allowance
EU	European Union
GDDS	General Data Dissemination System
GTA	Global Trade Atlas
HEART/NTA	The Human Employment and Resource Training Trust/National Training Agency
ICLS	International Conference on Labor Statisticians
ICP-Africa	International Comparison Program for Africa
ILO	International Labor Organization
IT	Information Technology
ITC	International Training Centre
JSA	Jobseekers Allowance
KILM	Key Indicators of the Labor Market
LBO	Labor Market Observatory
LMHCFP	Labor Market Harmonization and Coordination Framework Project
LMID	Labor Market Information Division
LMIP	Labor Market Intelligence Partnership
LMIP	Labor Market Information Portal
LMIS	Labor Market Information Systems
MAPS	Marrakech Action Plan for Statistics
MIFOTRA	Ministry of Public Service and Labor
NEPA	The National Employment Promotion Agency
NINo	National Insurance Number
NISR	National Institute of Statistics of Rwanda
NOS	National Occupational Standards
NSDS	National Strategies for the Development of Statistics
NSS	National Statistical Systems
ONS	Office for National Statistics
REC	Regional Economic Communities
RRSF	Reference Regional Strategic Framework for Statistical Capacity Building in Africa
SADC	Southern African Development Community

SHaSA	Strategy for the Harmonization of Statistics in Africa
SOEVT	Sub-regional Observatory on Employment and Vocational Training
SSA	Statistics South Africa
SSCs	Sector Skills Councils
TVET	Technical Vocational Education and Training
UC	Universal Credit
UN	United Nations
UNCTAD	United Nations Conference on Trade and Development
USAID	United States Agency for International Development
WAEMU	West African Economic and Monetary Union
WC	Workforce Connections

EXECUTIVE SUMMARY

This study provides a new lens for understanding labor market information systems (LMIS) and offers guidance for the focus and sequencing of investments in their development.¹ We argue that traditional technical assistance to support LMIS in Africa has neither succeeded in improving the functioning of labor markets nor achieved sustainability of the systems themselves, because of a narrow focus on producing employment statistics at the macro-level. Though such efforts are much-needed, a more comprehensive and integrated approach will be required in order to address the urgent information needs of youth and employers, and to realize the African Union's ambition to elevate the roles of labor market institutions and LMIS as "important components of national economic development planning" over the coming five years.²

We illustrate this point through the lens of an LMIS typology, which we have developed based on a landscape review of selected African LMIS models and international best practice models. The typology classifies LMIS into three categories according to their capabilities, system participants and outputs:

- **Basic systems** comprise few public actors and can only generate statistics on the labor market based on survey data.
- **Intermediate systems** involve more public actors and integrate services that create value for some users beyond data production.
- **Advanced systems** see private sector firms actively contributing to the system - not because they are obliged to, but because their participation leads to economic gains.

Such a framework permits an incremental, strategic long-term approach to LMIS development, which should yield more sustainable systems that achieve the purpose for which they are designed. Although we currently classify most African LMIS as basic systems, a stepped approach to adding actors and functionality could help these countries move more effectively towards more advanced systems, as exemplified by those in Australia, Denmark, France, United Kingdom or the United States. Specifically, interventions that have been missing from past efforts in Africa include facilitating the link between employment services and statistical sources, investing in more collaborative system governance, and substantively engaging the private sector.

Labor market information is used throughout the study as an umbrella term depicting all information about the labor market, including processed and untreated data, including the **inputs** (labor market data, soft and hard), the **processing** (labor market analysis) and the **outputs** (labor market intelligence). All countries generate labor market information, either deliberately or indirectly, through various forms of administrative data such as from running employment services, managing taxes, or providing

¹ The African Union (AU) has prioritized strengthening of labor market governance and specifically LMIS, through the 2015 Ouagadougou +10 Declaration and Plan of Action on Employment, Poverty Eradication and Inclusive Development.

² See « First Five-Year Priority Programme on Employment, Poverty Eradication, and Inclusive Development (2015-19), » African Union Specialized Technical Committee on Social Development, Labor, and Employment.

education. The question, then, is at what point labor market information should be considered part of an integrated system.

Figure 1. Components of labor market information



Depending on its applicability, labor market information can be either (1) intervention-oriented (catering to decision/policy makers), (2) observation-oriented (for socio-economic research), (3) demand-oriented (for employers to improve their ability to hire efficiently or the capacity of their human resources), or (4) supply-oriented (enabling youth and other workers to improve their standing in the labor market). A comprehensive LMIS should contain all 4 types of labor market information so that it helps workers, employers, policy-makers and researchers. In practice, however, only the most advanced LMIS manage to do so.

From our landscape review of various country systems in Africa and elsewhere, we observe that systems are generally conceived to fulfill one of the two following core set of functions:

1. Generate descriptive data on the labor market: we call this type of system the **data-driven LMIS**. Their main purpose is to produce information (i.e. statistics) describing the situations that prevail in the labor market. Such systems are especially useful for policy makers and for designing interventions aimed at improving the situation in, or the functioning of, the labor market.
2. Provide labor market services: we refer to these type of systems as **service-oriented LMIS**. They are designed to provide information to youth and workers, employers (and labor market intermediaries) to empower them to improve their work situation or their labor force, respectively.

In Africa, the evidence shows that LMIS have been overwhelmingly conceived as data-driven. Less raw forms of information, such as qualitative data have not been prioritized. Yet effective policy interventions should rely as much, or more, on qualitative assessments as on quantitative data.

We demonstrate that a LMIS can only succeed in improving the functioning of the labor market if both **data generation and service delivery functions are deliberately considered integrated parts of a comprehensive LMIS**. Without good capacity to generate reliable descriptive information on the labor market, the services and programs deployed by governments will not be properly adapted to the

characteristics and dynamics of the labor market since analysis and subsequent intelligence is incomplete. Conversely, the data generation function of a LMIS will fall short if the LMIS does not harness the information that is generated by the management of employment services.

Our integrated vision of LMIS rests on a definition of LMIS that emphasizes the institutional arrangements underpinning the information flows between key stakeholders (including the users of the information) instead of the data or computerized linkages that are outputs or tools. This viewpoint recognizes that all countries have degrees of capacity to generate and collect labor market information and that the question, therefore, should not focus on how well equipped countries are, but rather how they are organized.

A landscape review of the LMIS of Australia, Botswana, Cameroon, Denmark, France, Jamaica, Rwanda, South Africa, United Kingdom and the United States (California) yielded the following key observations from advanced systems:

1. LMIS are composed of several, most often interconnected, subsidiary information systems;
2. Public interfaces of subsidiary systems are tailored to different types of users (youth and workers, employers, intermediaries, students, policy-makers, researchers);
3. LMIS all contain a well-developed public job matching component;
4. Labor market information is detailed at the local level; and
5. Effective partnerships underpin the governance of LMIS.

To illuminate pathways to developing more advanced systems which possess the aforementioned characteristics, we define a typology in which the performance of systems are functions of (1) the number of interactions between entities that contribute to, and benefit from the systems (the more entities, the more likely links will exist or be created), (2) the outputs of the system (evaluating the extent to which the systems are able to provide employment services as well as data) and (3) the effective contribution of the private sector (signaling that the LMIS is capable of contributing to economic opportunity, determining system sustainability). The typology allows us to classify countries' LMIS into 3 types:

Table 1. LMIS typology according to actors and functionality

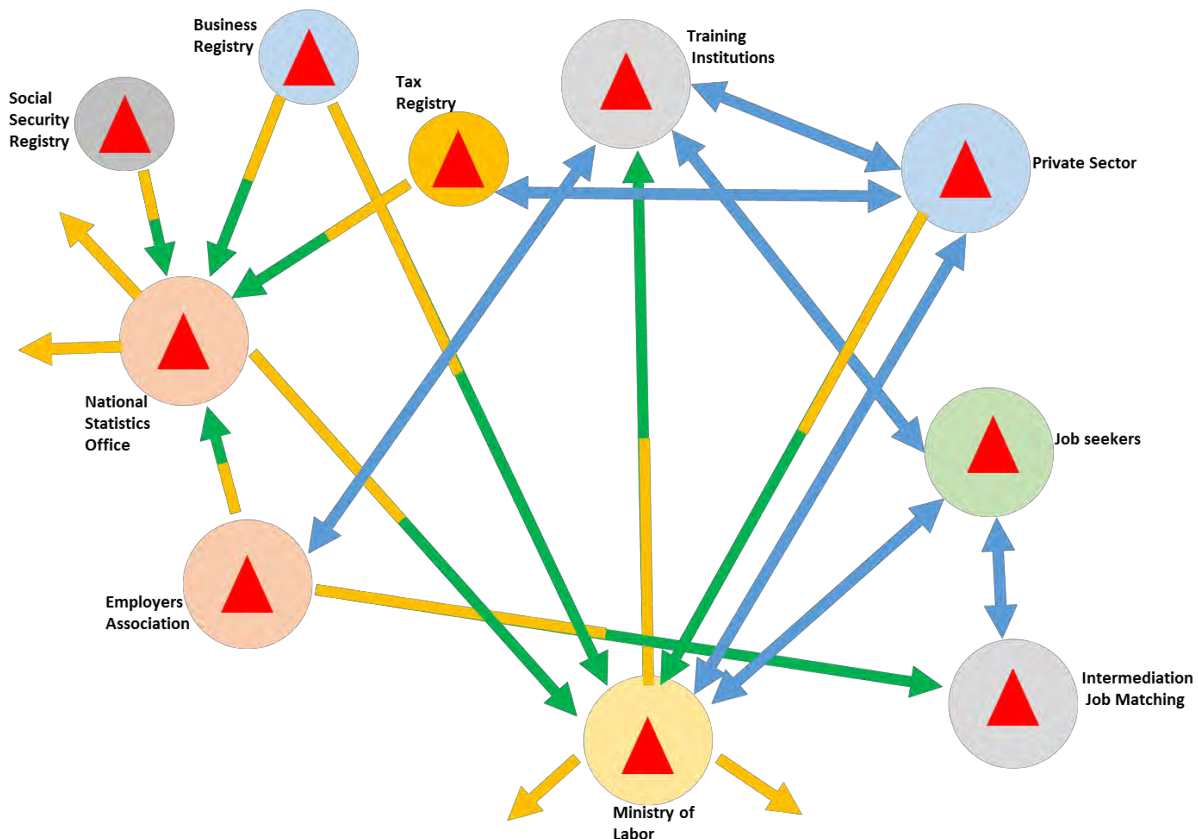
Actors	Data only	Data and services
Public actors only	LMIS Type 1	LMIS Type 2
Public and private actors	N/A	LMIS Type 3

LMIS Type 1 is a basic LMIS comprising public actors and generating data only. As it contains no service and tools, it provides little value added for end users (i.e. employers or employees).

LMIS Type 2 is an intermediate LMIS comprising only public actors but which aims, on top of data production, to propose services that create value for the end user (such as job matching services).

LMIS Type 3 is an advanced LMIS whose features are similar to those of type 2, but whose value generating capacity is such that private actors become effective participating entities since they find an economic advantage of being part of the system.

Figure 2. LMIS Type 3 (Advanced)



Currently, the African LMIS surveyed fall into LMIS type 1. Despite promising trends in improving the quality of macro-level data, they do not succeed in bringing tangible value to policy makers, employers and employees, and their governance structures remain largely unsustainable and dependent on donor support. The main weaknesses include:

- Narrow institutional support, as LMIS ownership has been confined to countries' statistical institutions;
- Focus on generation of broad, macro-level data instead of providing information useful for employers and workers (e.g. on skills supply, employment opportunities or career options);

- Exclusion of the private sector from effectively taking part in the governance and the formation of new information; and
- Failure to address the informal sector even though it comprises the vast majority of the labor force.

Transforming basic, data-oriented LMIS to integrated, advanced systems (i.e. from type 1 to 3) will require support at the highest level of government for a broader vision to deepen collaboration across ministries and sectors to share information that benefits employers and workers. Thus, an overarching recommendation at the country level is to **develop new institutional arrangements that embed LMIS planning and management in the national economic development planning process.**

More specifically, we offer a range of practical recommendations at the country level that, if implemented, would bring immediate value on their own while moving countries closer to a Type 3 LMIS, all the while contributing to the improvement of the enabling environment for integrated LMIS development. These include:

- **Exploiting existing, untapped sources of labor market information:** administrative information from a range of institutions provides a wealth of hard and soft data.
- **Integrating existing analysis of the economic context, competitiveness, and growth trends:** determining what skills are in demand or oversupplied, what sectors grow or show promise.
- **Expanding understanding of the informal labor market:** a wealth of qualitative and quantitative information could be generated by working closely with actors interacting with businesses and workers in the informal economy.
- **Focusing more on local labor market data:** local information holds greater relevance for both workers and employers. Focusing on a few local assessments allows for more insightful analysis in addition to aggregate macro-level data.
- **Developing new partnerships with research institutions and universities to improve cost-effectiveness and governance.**
- **Strengthening and linking to private sector intermediation services,** which have been much more successful in the African countries surveyed than public ones.
- **Embracing open data:** real time LMIS and other technological advancements show great promise in terms of extracting and analyzing existing data from a variety of administrative sources, at a relatively low cost.

The African Union (AU) and Regional Economic Communities (RECs) can play a catalytic role in accelerating the transformation to type 3 national systems. First, by deepening cross-sectoral collaboration on LMIS at the AU and REC levels, particularly among employment and economic development stakeholders. Second, by encouraging member states to adopt a new vision for an integrated approach to LMIS. The AU should consider the relevance of the typology we have proposed for the purpose of benchmarking (using new standards developed to reflect the new vision for LMIS), and monitoring the development of national LMIS in Africa over the coming five years.

1. INTRODUCTION

1.1 CONTEXT

This study provides a new lens for understanding Labor Market Information Systems (LMIS) and offers guidance for the focus and sequencing of investments in their development. We argue that traditional technical assistance to support LMIS in Africa has neither succeeded in improving the functioning of labor markets nor achieved sustainability of the systems themselves, because of a narrow focus on producing employment statistics at the macro-level rather than on informing employers and workers. This state of affairs is largely due to a definition problem: what are LMIS supposed to be and do?

This point is illustrated by viewing LMIS through the lens of a typology that classifies LMIS according to system participants and outputs. A basic LMIS system comprises few public actors and can only generate statistics on the labor market. Intermediate systems involve more public actors and integrate services that create value for some users beyond data production. The most advanced type of LMIS sees private sector firms actively contributing to the system - not because they are obliged to, but because their participation leads to economic gains.

These three categories permit an incremental approach to LMIS development, which should yield more sustainable systems that achieve the purpose for which they are designed. Although we classify most African LMIS in the basic category, a “step” approach to adding actors and functionality could help these countries move more effectively towards the types of advanced systems that we identify in Australia, Denmark, France, United Kingdom or the United States. Specifically, interventions that have been missing from past efforts include facilitating the link between employment services and statistical sources, and investing in more collaborative system governance.

The challenges of improving labor markets are stark, especially so in Africa (see Box 1). Unemployment, hitting the young and women the hardest, is an ever-increasing worry for governments struggling to establish enabling environments for the private sector to grow and create jobs. The demographic transition that has started in most of the continent's countries presents itself as a tremendous opportunity to sustain and accelerate the current growth dynamic of the African continent. It also poses an enormous challenge to meet the exponential rise in the demand for jobs, on the one hand, and for skilled workers, on the other. Support for LMIS development has been motivated by the search for solutions to these labor market realities.

The pathways for better LMIS we identify hold important implications for improving employment realities in Africa. Better labor market information helps policy makers craft more adapted and responsive policies and interventions thanks to signals, evidence-based analysis and evaluation. It enables students and workers to make wiser career moves through facilitated access to job openings, trainings, education and other skill development options. It improves employers' growth prospects because they can more easily voice their skills needs and identify ways to rapidly meet them.

To date, technical assistance to African countries' LMIS development efforts has centered on (i) establishing common goals for the development of LMIS; (ii) building the statistical and quantitative production capacity; and (iii) developing knowledge sharing infrastructure on the labor market. While these activities have addressed the ability of countries to produce statistics on the labor market, they have not provided meaningful support to employers and workers and, as a result, have fallen short of improving the functioning of labor markets.

The African Union (AU), for instance, together with the International Labor Organization (ILO), has for several years now promoted LMIS. In 2015, African Heads of State reasserted their commitment, through the Ouagadougou +10 Declaration and Plan of Action on Employment, Poverty Eradication and Inclusive Development, to labor market governance and specifically LMIS as important instruments for poverty reduction and employment.³ High-level support has made it possible to define the minimal perimeter that LMIS should effectively cover, most recently through the AU's Labor Market Harmonization and Coordination Framework Project in Africa (2012-2016), and to formalize a series of recommendations regarding implementation methodology as well as the list of indicators to be produced. Other international and bilateral organizations have supported regional capacity building programs such as AfriStat's LMIS program or national efforts like the implementation of labor force or establishment surveys.⁴

Box I. Employment challenges in Africa

Youth between 15-34 years account for 40% of the working age population in Africa (Blumel, 2014). Every year for the next decade, 11 million young people are expected to enter Africa's labor market, according to the World Bank (World Bank, 2014).

Youth are estimated to have an unemployment rate almost three times that of adults. The number of youth that are neither employed, nor in education or training have reached historic highs (Blumel, 2014).

According to the International Labour Organization (ILO), the official youth unemployment rate has been rising since 2010, and is estimated to be at 12.8% by 2018 (Blumel, 2014).

Official unemployment rates undervalue and cannot capture the realities of the labor market in Africa where, on average, more than 80% of workers hold informal jobs (African Development Bank, 2013) and where an interplay of economic, social and cultural factors limit equality of opportunity of men and women to work.

Most informal employees are women and youth (African Development Bank, 2013); 85% of women in Sub-Saharan Africa work in low-paid, vulnerable or undervalued jobs (UN Women, 2015).

³ See Annex 1 for more details on the institutional framework for LMIS development in Africa

⁴ See Annex 2 for an overview of technical assistance programs supporting LMIS

1.2 STRUCTURE

This study offers a new framework for understanding, analyzing and categorizing LMIS, thereby allowing for the identification of clearly sequenced and focused actions for LMIS development.

Section 2 first looks at current definitions and approaches to LMIS by investigating the literature and conducting a landscape review of national systems in the developed and developing world. Here, we distance ourselves from what has been an exceedingly data- and technology-centric approach to embrace a more systemic and service-oriented vision for LMIS development. We argue that LMIS' contributions to better labor markets could be enhanced if decision makers and practitioners adopt a wider definition of LMIS, where statistics on the labor market are integrated with the delivery of services for workers and employers.

In the second part of Section 2, building on our call for more integrated LMIS, we propose a typology in which the performance of systems are functions of the nature and number of public and private actors that contribute to and benefit from the systems. We define and provide examples for systems classified as basic, intermediate or advance

Section 3 lays out the key problems to be tackled through an evaluation of LMIS in Africa using this new typology as the lens. Pathways to address the challenges are proposed, based on an incremental and focused approach to the development of LMIS.

Section 4 concludes the study by summarizing our findings and formulating recommendations as to how the African Union, international organizations and regional economic communities can support the development of LMIS across the continent.

Annexes 1 and 2 explain the current institutional instruments and support programs for LMIS development in Africa. We refer to these annexes throughout the study to support our analysis and recommendations.

1.3 METHODOLOGY

This study was produced at the request of the AU under the auspice of the African Union Partnership (AUP) aimed at strengthening economic empowerment for youth and women with a focus on education and skills development, trade and market access, and economic governance and social protection. The study seeks to define what can be done at AU and member state level to ensure that LMIS become "important components of national economic development planning in member states of the African Union" and improve the functioning of labor markets.

In order to gain additional information and perspective about the level of cooperation between LMIS actors and the effectiveness of the systems in improving policy and labor outcomes, we have reviewed the systems in place in Botswana, Cameroon, Rwanda and South Africa. This country selection, made with the African Union Commission (AUC), is based on an attempt to be as geographically representative as possible given the study's scope, and on the knowledge that each of these countries has, in one way

or another, pushed for LMIS development. These four country systems are contrasted with the LMIS of Australia, Denmark, France, Jamaica, United Kingdom and one in the United States (California) chosen, in part, because of their prominence in the literature as best in class. The comparative review is intended as an illustration of the broad spectrum of systems' characteristics and functions that exist in Africa and globally and is not meant to be comprehensive. Each system evaluation is summarized in the landscape review table of LMIS in Section 2 and includes each system's core components and characteristics.

To complement this desk review of country systems, a series of semi-structured interviews were held with key LMIS representatives and stakeholders in Cameroon, Rwanda and Botswana. Interviewees were the African Union's LMIS focal points and representatives from leading private sector associations. Complementing the landscape review, the interviews allowed for more detailed assessments of the state of LMIS in each country, and supported the identification of activities to support LMIS development (Sections 3 and 4).

LMIS in Africa need a different development trajectory if the goal is to provide more employment and inclusive growth. The typology presented below was developed to offer explanations for why systems do not improve, and what can be done to raise their effectiveness. The resulting classification of systems according to output and number of participants allows us to identify a more effective development path for LMIS in Africa.

Instead of limiting their efforts to the production of employment statistics, countries with basic systems should begin by investing in the institutional arrangements to gain the support and effective participation of a broader network of ministries to improve the availability, dissemination and use of labor market information. Our recommendations are formulated as steps countries, and the African Union at regional level, can take to implement this integrated vision of LMIS

2. RETHINKING LMIS: AN INTEGRATED APPROACH FOR DEVELOPMENT

2.1 UNDERSTANDING LABOR MARKET INFORMATION SYSTEM

2.1.1 What is labor market information, analysis and intelligence?

The labor market, like other markets, can be described from the supply or demand side. On the **demand side**, we find all types of employers who need, or might need, workers and their services. On the **supply side**, we find the workforce composed of workers, actual or potential, offering labor services in exchange for compensation.

All of the information about the **labor market**, which includes the structure, characteristics and dynamics of the labor supply (e.g. its composition, skills or qualifications), and of labor demand (employer locations, industry, sectors, skills needs, types of jobs being offered, hiring practices, etc.), is known as **labor market information**. Labor market information also encompasses information on the intermediaries, or lack thereof, facilitating or obstructing the attainment of a labor equilibrium; in other words, situations where demand meets supply. It can take the form of "hard" data (i.e. quantitative data), which, once processed, becomes statistics. It can also take the form of "soft" data (i.e. qualitative data) on the functioning and characteristics of both sides of the labor market.

Various data related to the labor market are the inputs needed to create **labor market Intelligence**. When raw forms of labor market data undergo treatment and interpretation, they become useful in "creating the understanding of what is happening in the labor market or in employment and any associated implications for employers, individuals, intermediaries and government" (UK Commission for Employment and Skills, 2014, p. 9). We refer to the *process* of transforming *labor market data* (both soft and hard) into *labor market intelligence* as **labor market analysis**, which according to Sparreboom and Powell (Sparreboom & Powell, 2009, p. 4), can also be said to be the "examination of the best information available regarding the state of the labor market".

As represented in Figure 1 below, labor market information is used throughout the study as an umbrella term depicting all information about the labor market, including processed and untreated data, including the inputs (labor market data, soft and hard), the processing (labor market analysis) and the outputs (labor market intelligence).

Figure 1. Component of labor market information



All countries generate labor market information, either deliberately or indirectly, through various forms of administrative data that stem from running employment services, or managing taxes or the educational system. The question becomes when we can begin considering labor market information part of a system.

Depending on its applicability, labor market information has four main purposes⁵:

- 1. Intervention-oriented** information caters to decision makers and other labor market stakeholders who work to improve the functioning of labor markets (i.e. removing obstacles to employment, distortions, inequities and undesirable phenomena such as lower pay or higher unemployment for certain groups). In Australia, for example, the "Employment Research and Statistics" platform helps policy makers access comprehensive labor market intelligence (research, analysis and statistics), down to the most local level, in the areas of skill shortages, recruitment trends, labor and skills needs and industry and employment signals.
- 2. Observation-oriented** information serves a general purpose for overall research on the labor market to contribute to the study of the economy and society. *JobEffekter* ("Job effectiveness"), a Danish platform dedicated for research, is one such place where users can find studies and research (public or private) on the labor market. One of its key functionalities enables comparison and analysis of the effectiveness of a wide range of labor market policies.
- 3. Demand-oriented** information improves employers' ability to hire efficiently, to become more successful in optimizing new hires or to improve the capacity of their human resources. "Universal JobMatch" (UK), "*Pôle Emploi*" (France), "America's Job Center California" (California), "JobActive" (Australia) or "Jobnet" (Denmark) are all widely used job matching platforms by companies to find and hire workers, classified by detailed occupations and using advanced search functions. Similar publicly run job matching systems in Africa are few, and rudimentary at best (Tanzania, Botswana). Throughout the continent, privately run job matching platforms contain more recent job postings and worker profiles.⁶
- 4. Supply-oriented** information is used by workers to improve their standing in the labor market (e.g. find work, improve their skills). While job-matching systems cater as much to the supply side as the demand side, France's "*Compte Personnel Formation*" ("My Personal Training Account"), or Australia's "MyFuture", accompanies the student and worker throughout his/her working life, offers trainings and tracks certifications received. Each account interacts with online career counseling and training services.

⁵ Adapted from the Government of Yukon's classification (Government of Yukon, 2010, p. 10)

⁶ Examples of the private intermediation portals include for Rwanda: tohoza.com; jobinrwanda.com; umurimo.com, for Cameroon: adrh-apave.com; camerjob.com, everjobs.cm

A comprehensive LMIS should contain all 4 types of labor market information so that it helps workers, employers, policy-makers and researchers. In practice, however, only the most advanced LMIS are designed or managed to cater that widely.

From our landscape of various country systems (Section 2.2), we observe that systems are generally conceived to fulfill one of the two following core set of functions:

1. Provide descriptive data on the labor market: we call this type of system the **data-driven LMIS**; they are mostly intervention and observation oriented.
2. Provide labor market services: we refer to these type of systems as **service-oriented LMIS**; they are demand and supply oriented.

Defining LMIS is therefore best done by examining their functionalities in order to overcome the problem of competing visions of LMIS that exist in the literature.

2.1.2 The data-driven LMIS

The main purpose of a **data-driven LMIS** is to produce information describing the situations that prevail in the labor market. Such systems are especially useful for policy makers and for designing interventions aimed at improving the situation in, or the functioning of, the labor market. They build on a set of statistical indicators such as macro-level labor market performance indicators including unemployment rates, new job formation by sector, information on labor market demographics, etc. They offer longitudinal statistics providing insights into evolutions and trends. Their main sources of labor market information are surveys, i.e. household surveys (supply side), manpower establishment surveys (demand side) and labor force (supply and demand). The premise that drives such systems is that quality data improves analysis, which in turn creates better intelligence that should translate into more meaningful policy interventions on the job market.

Data-driven LMIS is the vision of LMIS that has concentrated most technical assistance provided to African countries in this field. Indeed, AU Member States, when turning to international partners, have been requesting help to develop their statistical systems in order to produce the eighteen "Key Indicators of the Labor Market" (KILM), defined by the ILO as a minimal list of labor market indicators designed, in part, to measure progress towards achieving "Decent Work" for all (International Labour Organization, 2011). (Interview ILO, 04/20/2016). This reflects an understanding that the KILM initiative represents a de facto Roadmap for LMIS. In addition to the ILO's decent work agenda, another driver of the data-driven approach has been the tendency, at a conceptual level, to tightly link LMIS development with issues related to IT development and data management. This may be due in part to the conventional association of the term "system" with information technology (IT) applications.

This focus on statistical data and IT systems has shaped the organizational arrangements put in place to manage LMIS. Overall in Africa, statistical departments have been given the responsibility of managing LMIS, be it the office in charge of national statistics, or the statistical department within the Ministry of Labor (see Section 3).

As a result, participants of national and international conferences, seminars and other training on LMIS development tend to be statisticians or IT staff. In Rwanda, the officially designated LMIS team is comprised of four IT engineers (one of whom is the manager) and only one labor economist (Interview LMIS, 05/10/2015). The trainings offered by the ILO usually focus on Labor Market Indicators, i.e., the statistical aspects of LMIS. ⁷

Consequently, LMIS tend to be thought of and conceived as tools meant to produce "hard" data, while less raw forms of information, such as qualitative data have less chances of being prioritized. This contributes to the gap between the data available and the data needed for overcoming barriers to employment. Arguably, effective policy interventions should rely as much, or more, on qualitative assessments as on quantitative data.

2.1.3 The service-oriented LMIS

The **service-oriented LMIS** centers on providing information to workers, employers (and labor market intermediaries) to enhance their efforts to improve their work situation or their labor force, respectively. The rationale underpinning this type of LMIS is that mismatching between demand and supply is largely due to imperfect information leading to inefficient allocations of demand and supply of labor. In a recent manual in which the German International Cooperation (GIZ) equates LMIS with "labor intermediation services", LMIS primary objective is to reduce "the job search costs for both workers and employers by improving the information flow between the labor demand and supply sides concerning available jobs and skills needed." In this model, the statistical function is only secondary. An LMIS is designed to "improve job placement and matching , to provide information on professions and training, to help people to develop a job profile and to develop skills for searching and applying for jobs, to collect and evaluate information necessary for governments to be able to formulate labor market policy and to identify focus groups." (Woltermann, 2012, p. 13)

Service-oriented LMIS will generally include access to job-market databases proposing to match employers with potential employees. They track information on vacancies, and offer employers access to job seeker profiles classified according to skills, experience and location. Australia's "JobActive", France's "*Pôle emploi*", Denmark's "JobNet" and the UK's "Universal JobMatch" (see Section 2.2) are examples of advanced, public, widely used job-market databases. These platforms usually also contain some information on vocational training and qualification programs, job application advice, although the quality and, hence, usefulness of these will vary. But for more in-depth career advice, some countries

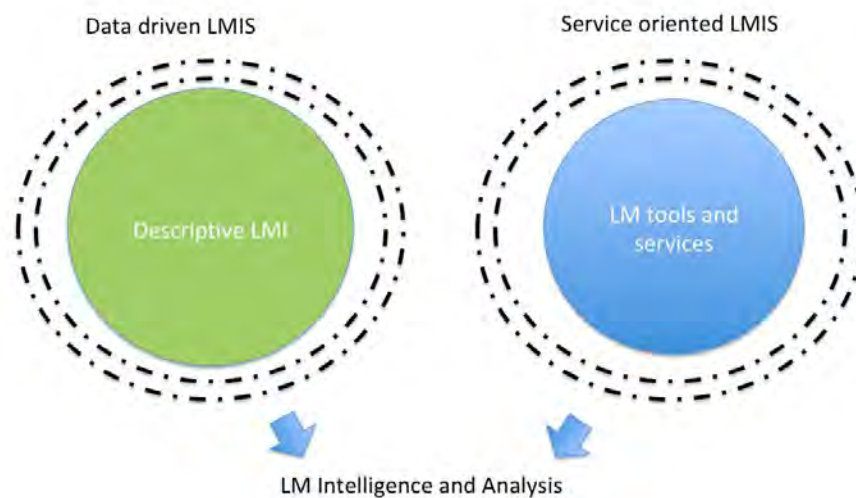
⁷ An example from a recent ILO training brochure: "*The main objective of the Academy is to enhance ILO member countries' capacity to collect, process, disseminate, analyze, and interpret labor market information that is aligned with the latest international statistical standards, in particular, the 19th ICLS Resolution concerning statistics of work, employment and labor underutilization, for the formulation of evidence-based policies in support of decent work.... The target audience of the Academy includes: Labor Statisticians from national statistical offices, Employment and development policy analysts from national statistical offices, government ministries, research and academic institutions, labor observatories, international organizations and donor organizations... The Academy targets labor statisticians, analysts and senior managers of statistical institutions*" - Excerpt from a recent brochure on LMIS training organized in November 2015 (International Training Centre of the International Labor Organization, 2015).

have developed online career platforms containing information on professions and related vocational training, university studies, and qualification courses for people who seek to change jobs or obtain a promotion. Some platforms are designed to speak specifically to youth such as Australia's "MyFuture" or France's "*Orientation pour Tous*" ("Orientation for All"). Such online services are complements to face to face counseling, helping develop a job profile according to an individual's skills, helping to find the right qualification and training courses and helping in the job search process. These services may be embedded in countries' employment centers or career centers, or within training centers. Intermediaries use systems to inform users. These actors, being the meeting point between the labor supply and demand on one side and institutions on the other, are privileged interfaces where quantitative information may be gathered, and important quantitative observations can be made.

2.1.4 The integrated LMIS

Despite employment services' importance to promote employment and to improve the functioning of the labor market, in the African countries we surveyed, service-oriented LMIS are either non-existent or not really operational. Botswana, for example, has made an attempt with its Labor Market Observatory, but its job matching registration function is not working. These countries have instead, as we previously demonstrated, focused on developing data-driven LMIS.

Figure 2. Separated systems



Nonetheless, this concentration of efforts has not led to comprehensive, sustainable, data-driven LMIS systems that are able to provide precise labor market intelligence as we see in Australia, Denmark, France, UK and US (see Section 3). We have found that the discourse on LMIS in studies and reports supports mostly data-driven systems, imagining them as detached from the running of employment services (see Figure 2).

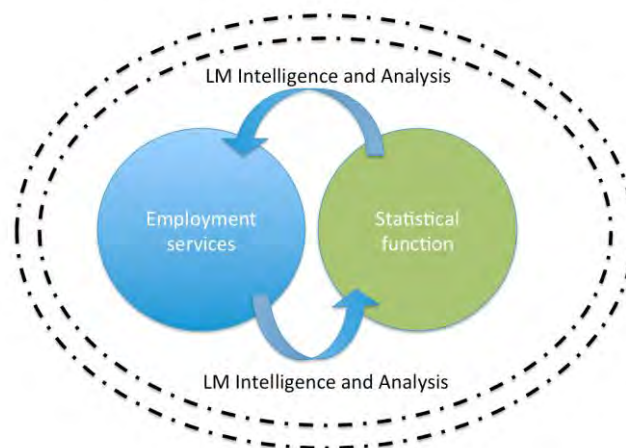
A too heavy focus on survey data has led to insufficient acknowledgment of linkages with other LMIS actors involved in improving the labor market and providing services to its actors (employment centers, municipalities, schools, universities, training centers, economic development departments, tax authorities, social security, etc.).

A wealth of information sources and flows namely linked to the delivery of various employment services such as job matching and counseling in job centers, social security services and vocational training, have, as a result, been overlooked. Because of this oversight, there are missed opportunities for achieving economies of scale (for example through shared systems infrastructure and management), and for improved analysis of labor market information.

We argue instead that a LMIS can only succeed in improving the functioning of the labor market if, both data generation and service delivery functions are deliberately considered integrated parts of a comprehensive LMIS. Without good capacity to generate reliable descriptive information on the labor market, the services and programs deployed by governments will not be properly adapted to the characteristics and dynamics of the labor market since analysis and subsequent intelligence is incomplete. Conversely, the ability to fulfill the data function of a LMIS will fall short if the LMIS does not harness the information that is generated by the management of employment services.

It is with the constantly revolving information between these two subsidiary systems that the LMIS as a whole has its best shot at producing labor market intelligence and analysis that allows for the instigation of a virtuous cycle, wherein good data, policies, and services are interlinked and mutually reinforcing. An "integrated LMIS" can be illustrated through the diagram below:

Figure 3. An integrated LMIS



Countries with the most successful labor markets have integrated systems. In Australia, for instance, data generated from running JobActive, namely on vacancies, skills demand, are continuously feeding into the labor market information portal, the MyFuture site or the JobOutlook platform enabling wider

analysis and better intelligence. In Singapore, the Economic Development Board coordinates the labor market information production of the Ministries of Trade and Industry, Manpower, Education and various other to ensure that skills supply meets the needs of the countries' growth targets (Powell, 2009, p. 21). In Ireland, the tripartite Expert Group on Forecasting Skill Needs (EGFSN) includes the participation of development agencies and employment authorities, which "means that the skill needs of development projects can be quickly communicated to the relevant training authorities," and because both private companies and employers are represented, "a commercial insight is taken on board" (Powell, 2009, p. 23-4).

2.1.5 Putting the system back in LMIS

As it should now be clear, we choose not to restrict the concept of LMIS to its computerized linkages: information systems, data or IT are simply tools that allow for better gathering, processing and dissemination of labor market information. Instead, we recognize that LMIS are defined by the information flows between key stakeholders and especially by the consumers and what they do with their labor market information. Indeed, there is no point collecting data or producing information unless there is a demand for that information (Sparreboom & Powell, 2009, p. 44).

Therefore, to understand LMIS and evaluate the merits and drawbacks of their design, our emphasis must be on the *system* as understood in the discipline of systems thinking, using Donella Meadows seminal definition, as "a set of things—people, cells, molecules, or whatever—interconnected in such a way that they produce their own pattern of behavior over time... The system, to a large extent, causes its own behavior" (Meadows, 2008). This definition of a system ensures priority is given to the examination of all actors involved, actual or potential, over the technical tools of the LMIS. In doing so, we can imagine systems that produce and organize labor market information for a wider spectrum of labor market stakeholders. For this reason, we find the definition used by Nicholas Mangozho's ILO working paper on LMIS to be the most useful, since it emphasizes system linkages over technical infrastructure: "*the set of institutional arrangements, procedures and mechanisms put in place to coordinate the collection, processing, storage, retrieval and release of labor market information*" (Mangozho, 2003, p. 14).

All countries have some capacity to generate and collect labor market information, no matter whether the responsibility is explicitly expressed or whether it befalls the statistics office or another ministerial department. The question, therefore, is not whether countries are equipped with an LMIS or not, but rather how the organizational arrangements that surround labor market information can be enhanced or expanded to achieve the broader purpose of optimizing the functioning of labor markets.

2.2 LMIS LANDSCAPE REVIEW

2.2.1 The challenge of measuring and comparing LMIS

"There is no general blueprint for the one and most effective LMIS", the GIZ notes in its most recent manual on the subject (Woltermann, 2012, p. 6). ILO's KILM (see Section 2.1.2) could in principle be used to compare performance between countries, by determining the extent to which countries are able to produce them. Their availability and accuracy might signal that the statistical system set in place to

monitor the trends of the labor market is sophisticated and well managed. Yet, comprehensive as they are, these indicators on the performance of the labor market are not necessarily, we argue, good proxies for establishing whether the labor market information available is useful for end users. These type of macro-level indicators have limited applicability for those job seekers and employers who seek to make more informed decisions in the labor market.

A recent ILO study on LMIS attempted to compare systems across countries (International Labour Organization, 2013, pp. 38-42). But when referring to the Australian system, the study only considered its statistical component, while for Jamaica it chose to highlight both the statistical component and the labor intermediation services (job matching) as key components. Australia has in fact a very advanced job matching system called JobActive (see next session). It is well integrated with its "Labor Market Information Portal" which extracts data on vacancies from JobActive.

Such analytical inconsistencies are, as we noted in the previous section, in part related to the problem of defining the purpose of LMIS. The focus on a tool, rather than on the organization of labor market information means that analysis is somewhat restricted in scope by the names given to the systems. Because conceptual problems are commonplace in the country comparisons of systems, we have chosen not to rely on them, and instead offer our own landscape review of LMIS.

Indeed, in the absence of a universal LMIS archetype and commonly agreed performance benchmarks, cross-national comparisons are necessary in order to define measures that governments, seeking to develop the quality, availability and distribution of labor market information, can take to improve their LMIS.

Given the absence of a universal LMIS archetype and commonly agreed performance benchmarks, comparing country systems allows for the identification of different measures governments have taken to develop the quality, availability and distribution of labor market information.

2.2.2 Key observations from the landscape review

The landscape review is presented in table format in Section 2.2.3 below. The findings from the review are used in our analysis of the performance of LMIS in African countries (Section 3). For each country, the main components of the LMIS are listed together with a short description, a link on how to access the public interface and a brief evaluation of the most important system features.⁸

Key observations of advanced LMIS (Type 3 LMIS - see Section 2.4 for the typology) from the cross country comparison stand out:

1. LMIS are composed of several, most often interconnected, subsidiary information systems;
2. Public interfaces of subsidiary systems are tailored to different types of users (youth and workers, employers, intermediaries, students, policy-makers, researchers);
3. LMIS all contain a well-developed public job matching component;

⁸ Our landscape review should not be considered exhaustive and only lists the most significant ones we have found. All countries system components researched have a public interface and might exclude some institutional arrangements, which have no dedicated online presence.

4. Labor market information is detailed at the local level; and
5. Effective partnerships underpin the governance of LMIS.

Subsidiary systems reflect the multiple sources and users of labor market information that exist. System interfaces are adapted for the type of user, either looking for statistics (a policy maker, researcher), job vacancies (someone out of work), skilled workers (an employer), or available training services (the career center counselor). In Denmark, three systems offered by the Ministry of Labor or the Statistics Institute are intervention and observation oriented, while a fourth one is dedicated to employers and job seekers (job matching - supply and demand driven). The same multiplicity of systems is found in Australia, France, the UK and the US.

The ability to provide local level labor market information greatly enhances the usefulness of the LMIS. Since youth and workers tend to look for jobs locally, in the area where they live, and firms look for skills where they are based, local level labor market information holds greater relevance for both the worker and the employer than does aggregated, national information. Furthermore, local data, complemented by sound qualitative analysis, creates the intelligence required for effective local workforce development.⁹ In all advanced economies, LMIS offer users geographical layers of data allowing to zoom in on progressively more localized data. Australia's Labor Market Information Portal, for instance, provides a wealth of data on skills, wages per occupation and on the employment prospects in each occupation, at the national, state, Labor Force Region, Employment Service Area and Statistical Local Area levels.

We have observed that all systems are built on solid partnerships between several departments (be it education, statistics or labor), and sometimes the private sector. In the UK, while the centralized information system on the labor market, the National Online Manpower Information System (NOMIS), is managed by the National Office for Statistics, it obtains inputs from a wide range of entities including the UK Commission for Employment and Skills and the Department for work and pensions, all the while relying on a partnership with Durham University to manage its databases. National systems connect to regional systems from which they collect information. Navigation between systems is seamless, as they are often interconnected, one system exploiting the data of the other.

In the African LMIS we have observed (Cameroon, Rwanda, Botswana), while partnerships to support LMIS may be envisaged on paper, in practice the systems remain the single-handed undertakings of one institution (see section 3). The exception might prove to be South Africa, which has launched a new approach to LMIS called the "Labor Market Intelligence Partnership" whose namesake suggests that the foundation for this new effort be cross-departmental partnerships (Powell & Reddy, Roadmap for the Implementation of a Skills Planning Unit, 2015).

⁹ For a good example of a detailed local level labor assessment, see the Labor Market Report for the South Yorkshire (UK) region, 2015 (National Careers Service, 2015).

2.2.3 LMIS in select countries

COUNTRY/LMIS TYPE	KEY COMPONENTS OF THE LMIS	INSTITUTION IN CHARGE	DESCRIPTION (AS PER THE WEBSITE)	EVALUATION SUMMARY OF THE NATIONAL LMIS
Australia TYPE 3/ Advanced LMIS	Labor Market Information Portal (lmip.gov.au)	Department of Employment	The Labor Market Information Portal (LMIP) has been developed by Department of Employment as an online resource. It contains up to date labor market data to help people understand their local labor markets. Data on the website are available at the national, state, Labor Force Region, Employment Service Area and Statistical Local Area levels.	<p>Integrated LMIS with several data-driven and service oriented subsidiary systems that are interconnected. A job posting on the JobActive platform for an "office manager" contains:</p> <p>(i) detailed information on the position, including salary level and job prospects estimates, Google maps job geolocalization, a link to the private recruiting agency responsible for the posting for more details (if applicable);</p> <p>(ii) a link to the JobOutlook platform which presents detailed statistical information on the office manager occupation such as current job prospects (number of workers in this occupancy, expected number of workers in 2019...); a description of skills required by order of importance (information on this site is derived from the US Department of Labor O*NET Database); vacancies per region - and facilitated access to these by linking back to regional JobActive listings;</p> <p>(iii) access to MyFuture for access to training courses and case studies that relate to the occupation.</p> <p>Public interfaces of subsidiary systems are sophisticated (many different ways to access and view information - graphics, time series, geo location), customized to fit the user point of view (worker, employer, student/family or policy-maker). For example, JobActive contains step-by-step information on job hiring support procedures for employers.</p>
	Employment Research and Statistics (employment.gov.au /employment-research-and-statistics)	Department of Employment	The Australian Government undertakes research and analysis of employment trends across Australia to support government policy development. Employment related research in the areas of skill shortages, recruitment experiences, labor and skills needs and industry and employment trends is available.	
	JobActive (jobactive.gov.au)	Department of Employment	Jobactive connects job seekers with employers and is delivered by a network of Jobactive providers in over 1,700 locations across Australia.	
Australia TYPE 3/ Advanced LMIS	JobOutlook (joboutlook.gov.au)	Department of Employment	Job Outlook is a careers and labor market research information site to help you decide on your future career. Use the search options below to find a wealth of information covering around 350 individual occupations.	<p>Local level and industry specific data availability from a large spectrum of sources and departments across governments. Projections up to 2019 across industries, occupations, states and territories, and regions.</p> <p>Several analysis/ reports available for online reading/download across systems including industry or vacancy reports.</p>

COUNTRY/LMIS TYPE	KEY COMPONENTS OF THE LMIS	INSTITUTION IN CHARGE	DESCRIPTION (AS PER THE WEBSITE)	EVALUATION SUMMARY OF THE NATIONAL LMIS
	MySkills (myskills.gov.au)	Department of Education and Training	National training and education directory	<p>Reports are "tagged" according to who they are designed for ("employers" for example)</p> <p>Strong presence of the private sector: many of the job postings on JobActive emanate from private agencies. MyFuture is privately managed and partners with several large employers namely for the apprenticeship program.</p>
	MyFuture (http://myfuture.edu.au/)	Education Services Australia Ltd (Privately managed)	MyFuture is Australia's national online career information and exploration service.	
Botswana TYPE 1/ Basic LMIS	Labor Statistics (http://www.cso.gov.bw/index.php/sector-statistics/labour)	Statistics Botswana	Labor Statistics Unit of CSO collects data on formal sector employment levels, average earnings and other characteristics of the workforce. The unit also compiles and analyses data on approved work permits by industry, occupation, work experience, qualification, citizenship of holder etc. The most important information source for labor measures is the national Labor Force Survey (LFS).	<p>Despite its ambitions of offering both data-driven and service-oriented LMIS, the Botswana LMIS provides only limited data-driven value to employers, workers and policy makers because:</p> <p>(i) The Labor Market Observatory (LBO) and Botswana Statistics platforms are not updated: LBO contains only statistics up to 2009 which are only available in a PDF (excluding search engine optimization). Botswana statistics offers more data but the latest quarterly labor statistics brief has not been renewed since 2013</p>

COUNTRY/LMIS TYPE	KEY COMPONENTS OF THE LMIS	INSTITUTION IN CHARGE	DESCRIPTION (AS PER THE WEBSITE)	EVALUATION SUMMARY OF THE NATIONAL LMIS
	Labor Market Observatory (botswanalmo.org)	Ministry of Education and Skills Development, Botswana Qualifications Authority, Botswana Examinations Council	The LMIS is an information system is an active labor market policy instruments that collects, analyzes, monitors and captures labor information such as labor indicators data, labor demand and supply forecasts and any other labor market data of the labor market. Labor market information is key to all players; policy makers use it for decision-making purposes, students and their parents for informed career choices, researchers etc.	and the quarterly overview of work permit holders not since 2012; (ii) The LBO ambitions to job match but the registration function is not working and the database therefore contains no active CVs or jobs. (iii) The LBO's database of occupations only contains 15 occupations such as economists and dentists with limited relevance for the wider labor force. It is also not up to date.
Cameroon TYPE 1/ Basic LMIS	<i>Fonds National de l'Emploi</i> (fnecm.org)	<i>Fonds National de l'Emploi</i> (National Employment Fund)	The mission of the National Employment Fund is to promote employment in Cameroon, through labor intermediation between employers and workers, professional training, entrepreneurship promotion, and dissemination of labor market information (translated from French).	Despite important efforts to propose employment services, namely through a network of 10 regional employment offices and various employment programs, the Cameroon LMIS is not effective at delivering labor market information and services to employers, workers and policy-makers since:

COUNTRY/LMIS TYPE	KEY COMPONENTS OF THE LMIS	INSTITUTION IN CHARGE	DESCRIPTION (AS PER THE WEBSITE)	EVALUATION SUMMARY OF THE NATIONAL LMIS
	Statistics Cameroon (statistics-cameroon.org/)	<i>Institut National de la Statistique au Cameroun</i> (National Statistics Institute of Cameroon)	NA (website links are broken)	<p>(i) The number of vacancies on the national intermediation portal, FNE, is very small (46 vacancies on February 13, 2016) and the vacancies are presented in an uninviting format with no systemized information on skill requirements, wages, geographic location, etc.</p> <p>(ii) The latest report relating to the labor market found online on is a household survey from 2014 containing only aggregate information on employment (http://slmp-550-104.slc.westdc.net/~stat54/downloads/2015/Premiers_resultats_ECAM_4_VF.pdf). The national statistics portal has enduring technical difficulties which does not allow users to access its databases.</p> <p>(iii) There is no user-centric information on the professional trainings or support programs proposed. For instance, entrepreneurs cannot find information on FNE on where they should go to register their business despite the existence of One Stop Shops for business registration throughout the country.</p>
Denmark TYPE 3/ Advanced LMIS	Job Indsats (jobindsats.dk)	Department for labor market and recruitment, Ministry of Labor	JobIndsats.dk makes it easy and fast to obtain an overview of employment policy and efforts to create jobs for everyone (translated from Danish).	Integrated LMIS with several data-driven and service oriented subsidiary systems that are interconnected. The data-driven LMIS (JobIndsats and employment statistics portals) contain data from a large variety of sources: municipalities, job centers and other state agencies including central business registry, social welfare and immigration. Time-series can be customized according to many variables (gender, age, regions).
	Job Effekter (jobeffekter.dk)	Department for labor market and recruitment, Ministry of Labor	Instrument to find studies and research (public or private) on the labor market. It allows to compare and analyze the effectiveness of labor market interventions with the aim of determining which support mechanism work to improve the functioning of the labor market (translated from Danish).	Service-oriented LMIS: the job matching portal "JobNet" is widely used with almost 10 million views/month. It contains specially designed interfaces and guides with interactive capabilities for youth or low skilled workers that guides the job seeker towards relevant jobs. Privately owned jobmatching platforms such as JobIndex complement the publicly managed JobNet.

COUNTRY/LMIS TYPE	KEY COMPONENTS OF THE LMIS	INSTITUTION IN CHARGE	DESCRIPTION (AS PER THE WEBSITE)	EVALUATION SUMMARY OF THE NATIONAL LMIS
	Jobnet (jobnet.dk)	Department for labor market and recruitment, Ministry of Labor	Labor intermediation and access to employment services for employers and employees (translated from Danish).	JobEffekter ("Job effectiveness") is a dedicated platform for research and policy-makers: users can find studies and research (public or private) on the labor market. One of its key functionalities enables comparison and analysis of the effectiveness of a wide range of labor market policies.
	Jobindex (jobindex.dk)	private company	Jobindex is Denmark biggest job market. We provide the most comprehensive overview of vacancies in Denmark.	
	Employment statistics (dst.dk/da/Statistik/emner/beskaeftigelse)	National Statistics Office (Statistik Danmark)	The Statistics Office is in charge of producing a range of employment related statistics including administering the labor force survey (translated from Danish)	
France TYPE 3/ Advanced LMIS	Labor and Employment statistics (http://www.insee.fr/fr/themes/theme.asp?theme=3)	National Institute for Statistics and Economic Studies (<i>Institut National de la Statistique et des Études Économiques</i>)	Statistics on Labor and Employment compiled by the National Statistics Office (translated from French)	Integrated LMIS with several data-driven and service-oriented subsidiary systems that are interconnected. Highly detailed and up to date statistics and projections on the labor market stemming from a large variety of sources (labor force survey, census, tax administration, etc.)
	The national portal for employment policy and professional training (emploi.gouv.fr)	Department for Employment, Ministry of Labor and Vocational Training (<i>Ministère du Travail, de l'emploi, de la formation professionnelle et du dialogue sociale</i>)	The national portal for employment policy and professional training (translated from French)	The Job matching ("Pôle emploi") system is sophisticated and user-centric. It contains detailed information on vacancies, including salary level and geo-localization. The employer specific views gives access to almost 7 million CVs which can be accessed through different ways, one is through the "fiche métier" (occupational sheet) suggesting a wide range of available profiles listed in a brief, user friendly way. The employer can select profiles to his/her basket and interact with the employment agency to arrange for interviews. Hiring and training support mechanisms (such as subsidies) are explained comprehensively.

COUNTRY/LMIS TYPE	KEY COMPONENTS OF THE LMIS	INSTITUTION IN CHARGE	DESCRIPTION (AS PER THE WEBSITE)	EVALUATION SUMMARY OF THE NATIONAL LMIS
	Compte Personnel Formation (moncompteformati on.gouv.fr) <i>Orientation pour tous</i> (orientation-pour-tous.fr)	Department for Employment, Ministry of Labor and Vocational Training	The personal training account is a tool meant to accompany the worker throughout his/her working life. It is linked with online career counseling and training services. Information is responding to the needs of the market place (translated from French)	Availability of local data down to communal level including number of workers per sector. Gender disaggregation is available. Geographical visualization of data by region or department facilitates analysis. Wide availability of detailed analysis of employment data. France's "Compte Personnel Formation" (my personal training account) accompanies the student and worker throughout his/her working life, offers trainings and tracks certifications received. The account interacts with online career counseling and training services.
France TYPE 3/ Advanced LMIS	<i>Pôle emploi</i> (pole-emploi.fr/)	<i>Pôle emploi</i> (i.e. The Employment Centre)	<i>Pôle emploi</i> receives those that have declared unemployment. It provides them with social benefits. The agency provides advice and supervises job hunting, as well as providing a platform to help companies find and hire workers (wikipedia)	
	travail-emploi.gouv.fr/etudes-recherches-statistiques-de,76/	Department for research and statistics - Ministry of Labor and Vocational Training	Compiles and analyses data on the labor market (translated from French)	
Jamaica TYPE 2/ Intermediate LMIS	Labor Market Information System (lmis.gov.jm)	Ministry of Labor and Social Security	The national Labor Market Information System (LMIS) is a job matching facility as well as a database of qualitative and quantitative information. The information is collected from a number of labor market information producers. Combination of current and historical data on the local economy, population and labor market. It also includes information on training opportunities for the youth, sources of funding for education, the most frequently advertised jobs (hottest jobs) and summaries of labor market research conducted by MLSS.	Intermediate LMIS containing data-driven and service-oriented systems with some degree of integration reflecting a comprehensive approach to LMIS development and effective cooperation from public stakeholders. For example, up to date employment data received from the statistics department is exploited and presented in a user-friendly way with several longitudinal data graphs by the National Training Trust's Labor Market Information Portal (LMIP). Updated labor force survey data ensures regional level information on employment levels including by sector but more

COUNTRY/LMIS TYPE	KEY COMPONENTS OF THE LMIS	INSTITUTION IN CHARGE	DESCRIPTION (AS PER THE WEBSITE)	EVALUATION SUMMARY OF THE NATIONAL LMIS
	Labor Market data (statinja.gov.jm)	Statistical Institute of Jamaica	National Statistics on Labor and Employment	<p>in-depth information and municipal level information would improve relevance for decision-makers.</p> <p>The LMIP lists occupations that are in demand or over supplied. This is useful for the worker but the functionality would benefit from more quantitative data and qualitative analysis. The LMIP's training database allows searching for different types of trainings. Trainings presentations only include contact information of the training provider. Information on the content of training, length, cost, application procedure would have been a plus.</p> <p>The LMIS contains a job matching service with some recent vacancies although the amount of jobs posted appears small, even when factoring in the size of Jamaica's labor market. Jobs can be searched by occupation but the presentation of a vacancy is incomplete and the design outdated reducing the usefulness of the platform.</p> <p>Career Development Center ambitions to provide a wide range of services yet it's content are limited and have not been updated since 2013.</p>
Jamaica TYPE 2/ Intermediate LMIS	Labor Market Intelligence Department's Labor Market Information Portal (lmip.heart-nta.org/)	The Human Employment and Resource Training Trust, National Training Agency (HEART/NTA)	<p>The Labor Market Information Portal (LMIP) is a one-stop area where up-to-date labor Market Information is accessible to enable users to understand labor supply and demand trends. The Portal provides data and information about the population, labor force, employment, unemployment, education, training and other related data, which are expected to contribute in achieving a more efficient labor market.</p>	
	Career Development Jamaica (cdjamaica.org)	National TVET Center	<p>The career development website provides a wide range of information and services which includes career planning and preparation, developing your resume, how to conduct job interviews, where to find jobs and the overall job search process.</p>	

COUNTRY/LMIS TYPE	KEY COMPONENTS OF THE LMIS	INSTITUTION IN CHARGE	DESCRIPTION (AS PER THE WEBSITE)	EVALUATION SUMMARY OF THE NATIONAL LMIS
Rwanda TYPE 1/ Basic LMIS	Labor Market Information System (lmis.gov.rw)	Ministry of Public Service and Labor	The Labor market information system provides quantitative and the qualitative information and intelligence on the labor market that can assist labor market agents in making informed plans, choices, and decisions related to their business requirements, career planning, education and training offerings, job search, recruitment, labor policies and workforce investment strategies.	<p>Basic data-driven LMIS. Despite a dedicated LMIS platform and unit located at the Ministry of Labor, the LMIS contains little data of use to employers, workers and policy-makers. The LMIS does disseminate various reports relating to the labor market conducted by partner institutions such as establishment survey or SME survey but these are only available for download. No additional analysis is disseminated on the platform.</p> <p>Some good efforts to present the information in a graphic user-centric way but the platform lacks a modern look and feel.</p> <p>A labor force survey to be implemented in 2016 should provide more data on the labor market, also at local level in the future.</p> <p>No service-orientation of the LMIS: lack of any substantial information on existing employment services (such as Kigali's employment center) or trainings. The system presents a few links to privately run job matching sites. The LMIS unit maintains a count on the number of vacancies per month. There is no public job matching system or support scheme to encourage private job matching.</p>
South Africa TYPE 2/ Intermediate LMIS	Labor Market Intelligence Partnership (LMIP) (http://www.lmip.org.za/)	The Department of Higher Education and Training (DHET)	The LMIP is collaboration between government and a national research consortium that aims to build a credible institutional mechanism for skills development in South Africa.	Data-driven LMIS with some (but limited) employment service integration. The South African LMIS is currently undergoing overhaul through the Labor Market Intelligence Partnership based on the understanding that its usefulness has been limited thus far.

COUNTRY/LMIS TYPE	KEY COMPONENTS OF THE LMIS	INSTITUTION IN CHARGE	DESCRIPTION (AS PER THE WEBSITE)	EVALUATION SUMMARY OF THE NATIONAL LMIS
	Labor Market Theme (statssa.gov.za/?page_id=737&id=1)	Statistics South Africa	The information related to the labor market is gathered, collated and released by "Statistics South Africa" (SSA), which is the national statistical service. SSA also publishes demographic and macroeconomic statistics.	The data-driven LMIS platform of Statistics South Africa provides up to date data (thanks to a regularly updated labor force survey) on the labor market and access to a quarterly publication providing labor market intelligence of the employment situation in SA with provincial level data (employment by age, industry, gender). A survey from 2013 on self-employment provides some in-depth insight on the informal sector. The labor department offers online job matching but the platform lacks user friendliness. The extent of jobs and CVs available online is unknown.
	ESSA (essa.labor.gov.za/EssaOnline/WebBeans/)	Employment Services of South Africa, Department of Labor	Information available on various employment service including unemployment insurance and counseling	
United Kingdom TYPE 3/ Advanced LMIS	National Online Manpower Information System (nomisweb.co.uk)	Office for National Statistics (ONS)	Nomis provides free and easy access to the most detailed and up-to-date UK labor market statistics from official sources.	Integrated LMIS with several data-driven and service-oriented subsidiary systems that are highly interconnected. The National Online Manpower Information System (NOMIS) aggregates data from several sources and sub-systems. The University of Durham through a partnership agreement with the Office manages it for National Statistics (ONS). Local data is very detailed (occupation, per industry, gender, employment projections) and available and easily accessible down to council and ward level. The private sector is actively involved in detecting skill shortages and formulating/developing actions to overcome these skill gaps. Employer-led, Sector Skills Councils (SSCs) produce Sector Skill Assessments (SSA) involving assessments of sectors to identify employer's short, medium and longer term skills needs, to
	Office for National Statistics - Theme Labor Market	Office for National Statistics	National Statistics on Labor and Employment	

COUNTRY/LMIS TYPE	KEY COMPONENTS OF THE LMIS	INSTITUTION IN CHARGE	DESCRIPTION (AS PER THE WEBSITE)	EVALUATION SUMMARY OF THE NATIONAL LMIS
United Kingdom TYPE 3/ Advanced LMIS	National Occupational Standards database (http://nos.ukces.org.uk/). Also include links to all sector councils in the UK, for example : http://www.citb.co.uk/	UK Commission for Employment and Skills	Full database of National Occupational Standards (NOS) are statements of the standards of performance individuals must achieve when carrying out functions in the workplace, together with specifications of the underpinning knowledge and understanding. Access to all sectors skills councils in charge of setting the standards for each occupation.	<p>evaluate skills development levels and to define ways to ensure the needed training.</p> <p>"Universal JobMatch" is the public job matching platform widely used by workers to find vacancies, classified by detailed occupations and using advanced search functions. It obtains vacancies namely from a large network of private recruiting companies.</p>
	StatXplore (https://stat-xplore.dwp.gov.uk)	Department for work and pensions	Stat-Xplore provides a guided way to explore DWP benefit statistics, currently holding data relating to Housing Benefit claimants, the number of National Insurance Number (NINo) registrants entering the UK from overseas, Jobseekers Allowance (JSA) and Employment and Support Allowance (ESA) sanction decisions, Personal Independence Payment (PIP) and Universal Credit (UC). In future Stat-Xplore will include data on a wider set of DWP benefits.	
	Universal Job Match (jobsearch.direct.gov.uk or gov.uk/jobsearch)	Department for work and pensions	Universal Jobmatch is a free service that enables you to search for and apply for jobs on one of the largest job boards in Europe. You do not need to be registered to search for jobs but setting up a Universal Jobmatch account will enable you to do much more.	

COUNTRY/LMIS TYPE	KEY COMPONENTS OF THE LMIS	INSTITUTION IN CHARGE	DESCRIPTION (AS PER THE WEBSITE)	EVALUATION SUMMARY OF THE NATIONAL LMIS
	The National Careers Service (nationalcareers.service.direct.gov.uk)	Department for Business, Innovation and Skills	The National Careers Service provides information, advice and guidance to help you make decisions on learning, training and work opportunities. The service offers confidential and impartial advice. This is supported by qualified careers advisers.	
United States (California) TYPE 3/ Advanced LMIS	https://www.caljobs.ca.gov/vosnet/Default.aspx	Employment Development Department, State of California	The CalJOBSSM system is California's online resource to help job seekers and employers navigate the state's workforce services. The enhanced system allows users to easily search for jobs, build résumés, access career resources, find qualified candidates for employment, and gather information on education and training programs.	Integrated LMIS with several data-driven and service-oriented subsidiary systems that are highly interconnected. The Labor Market Information portal provides a wide range of data and labor market intelligence presented from the perspective of the worker, student, employer or policy maker. It contains local level employment data including specifics on sectors and occupations (wages, vacancies by occupation or geographic area). For workers or students, it provides access to information on trainings, fastest growing occupations, and counseling information services to improve career prospects, information on how to obtain licenses to operate for regulated occupations, etc. For employers, access to compensation surveys are facilitated, to a very wide spectrum of detailed labor market information down to county level including such data as commuting patterns. On top of
	America's Job Center of California http://www.americajobcenter.ca.gov/	California Workforce Investment Board	The America's Job Center of California SM (AJCC) network links all state and local workforce services and resources across the state and country. The AJCC partners in California are the Employment Development Department, the California Workforce Development Board, and 49 Workforce Development Boards that administer the more than 200 job centers statewide.	

COUNTRY/LMIS TYPE	KEY COMPONENTS OF THE LMIS	INSTITUTION IN CHARGE	DESCRIPTION (AS PER THE WEBSITE)	EVALUATION SUMMARY OF THE NATIONAL LMIS
	<p>Labor Market Information Division http://www.labor-marketinfo.edd.ca.gov</p>	<p>Employment Development Department, State of California</p>	<p>The Labor Market Information Division (LMID) is the official source for California Labor Market Information. The LMID promotes California's economic health by providing information to help people understand California's economy and make informed labor market choices. We collect, analyze, and publish statistical data and reports on California's labor force, industries, occupations, employment projections, wages and other important labor market and economic data.</p>	<p>all this up to date data, access to projections on skills demand help policy-makers and trainers at state to county level.</p> <p>State portals also provide access to a wide range of federal resources such as myskillsmyfuture.org enabling workers to explore their different career paths depending on their skillset. JobMatching is highly developed through a wide range of public and private job matching sites</p>

2.3 A TYPOLOGY OF LMIS

2.3.1 Determinants of the typology

As stated earlier, LMIS should be seen as a set of institutional arrangements. New institutional actors may join or leave, contribute or benefit knowingly or indirectly, and share, or not, a common understanding of the system and of its purpose. This, however, poses a serious challenge to measuring LMIS performance and potential.

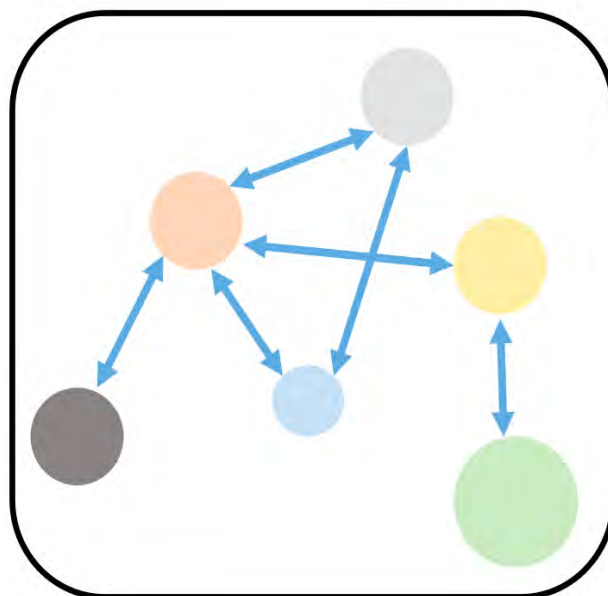
To overcome the latter, we have developed a typology of LMIS, which builds on the definition of LMIS summarized in the prior section. It aims to offer a framework for understanding and comparing the actual or potential performance of LMIS and, consequently, offer pathways to improve them.

Any system is composed of entities that interact. A system can therefore be characterized by:

- The number of entities in the system
- The number of interactions between system entities
- The frequency of interactions between system entities

A system can be illustrated as follows through a number of entities interacting with varying frequency:

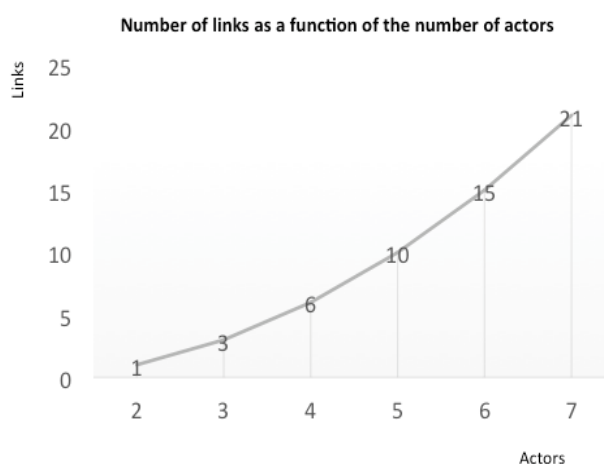
Figure 4. Representation of a system



A good indicator of a system's dynamism is to define the number of "links", i.e. the number of interactions between its entities. By entity we mean an institution, part of a LMIS, which produces and/or processes and disseminates information and/or services, and sustains at least one interaction -

which may or may not be computerized - with another entity of the system. As illustrated in the figure below, the number of actors has an exponential impact on the number of interactions between system actors. More actors bring more production of information and services. The more entities, the more likely links will exist or be created.

Figure 5. Number of links as a function of the number of actors



While the number of actors and links does provide us with good information on performance of a LMIS - information is either shared, processed, disseminated at a large or small scale - it does not tell us much about the nature and quality of the information.

We therefore propose to classify countries' LMIS according to 2 variables:

1. The first variable relates to the **quality of output produced by the system**. We have just seen that LMIS are generally designed to be either mostly data driven or service driven. We argued that LMIS could be improved by expanding the focus of LMIS so that they better integrate both of these functions. Doing so makes the systems more interdependent, instigating a virtuous cycle where the use of better data improves employment services and where information from running the latter contributes, in turn, to better quantitative and qualitative labor market information. Our first discriminatory variable is therefore that an LMIS either:
 - provides descriptive data on the labor market only (Data Only - D); or
 - provides labor market tools and services and descriptive data on the labor market (Data & Services - DS).
2. **The second discriminatory variable of a LMIS in our typology is the effective contribution of private entities**. It relates to the capacity of the LMIS to generate and sustain value generation. Effective collaboration, i.e. the processing/transformation of labor market information by the

private sector (e.g. employers' associations, trade union organizations, firms, private intermediation services), is, we argue, a powerful indicator that value is being created *within* the LMIS. Indeed, the active presence of the private sector signals that the LMIS is capable of generating or contributing to profit-making opportunity that is in some way or another deemed beneficial (there would be no benefit for a private actor to generate data only). Not only is the private sector the main purveyor of employment in most labor markets, but it is also uniquely positioned to offer insights and solutions to overcome skill shortages and promote employment.

Thus, we can classify LMIS according to three (3) types:


Actors	Data only	Data and services
Public actors only	LMIS Type 1	LMIS Type 2
Public and private actors	N/A	LMIS Type 3

LMIS Type 1 is a basic LMIS comprising public actors and generating data only. As it contains no service and tools, it provides little value added for end users (i.e. employers or employees).

LMIS Type 2 is an intermediate LMIS comprising only public actors but which aims, on top of data production, to propose services that create value for the end user (such as job matching services).

LMIS Type 3 is an advanced LMIS whose features are similar to type 1's but whose value generating capacity is such that private actors become effective participating entities since they find an economic advantage of being part of the system.


In order to understand what shape these three LMIS types may take in practice, an illustration of each type is useful before a more in-depth exploration of their characteristics.

In an LMIS, entities produce or process information. The entities can either be consumers of labor market information or users of an employment service. Each contributing entity either produces or processes information and disseminates its output to benefit either an end beneficiary or another entity who will in turn process information and disseminate its labor market information further until the information reaches an end user. In the illustration of a LMIS below, we use a triangle symbol () to illustrate the centrality of this function. Furthermore, each entity performs either one or both of the following functions:

- Receiving information from another entity. We use a green arrow



to illustrate this relationship.

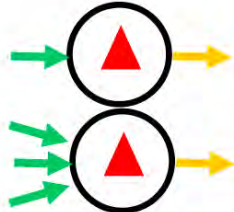
- Disseminating information. We use a yellow arrow to represent  this function.

Following this logic, labor market information can be:

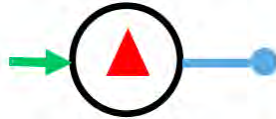
- produced directly by the entity which is illustrated accordingly:



- produced from information received from other entities:



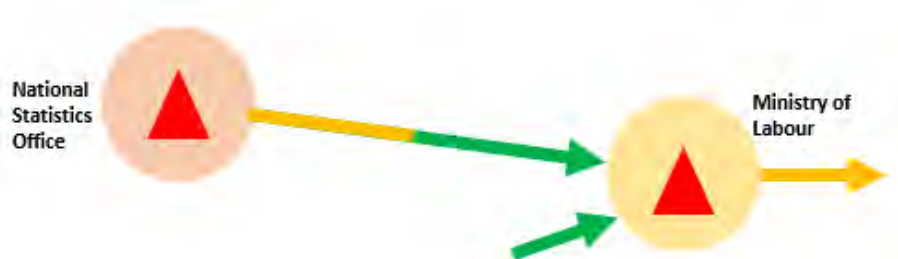
- processed to produce a service:



2.4 LMIS TYPE 0

Using the above representations, a **LMIS type 1** could be represented as follows:

Example of LMIS type 1: Botswana, Cameroon, Rwanda



The **LMIS type 1** focuses on running a statistical system, centrally managed by the respective National Statistics Office and/or the countries labor department. In Rwanda, for instance, the Ministry of Labor oversees a LMIS unit with data inputs from the National Institute of Statistics (see Rwanda LMIS website). Similarly, in Cameroon, the Observatory on Employment tasked with LMIS (although some confusion remains on system ownership), it has been placed under the tutelage of the Ministry of Employment (Interview with GICAM, 05/14/2015).

These LMIS focus on maintaining a set of labor statistical indicators such as macro-level labor market performance indicators including unemployment rates, new job formation by sector, information on labor market demographics, etc. Their main sources of labor market information are surveys, i.e. household surveys (supply side), manpower establishment surveys (demand side) and labor force (supply and demand). As such large-scale surveys are complex and costly to implement, they are therefore not always carried out or updated regularly. In Rwanda, the LMIS relies on smaller scale manpower and household surveys while the country's first Labor Force Survey is yet to be rolled out (planned for 2016).

There exists in most countries a wealth of labor market information produced over the years, even though in surveyed African countries they are mostly of varying quality, and often outdated. Institutions such as Tax departments, Ministries of Trade and Industry, and SME development generate administrative data that could be useful for labor market analysis to illuminate policy and other labor market related decisions (see section 3 for more detailed suggestions on sources of labor market information).

Similarly, it is important to point out that in countries with Type 1 LMIS, some employment services *do* exist yet they are separate or very weakly linked to the data driven LMIS. Social security and unemployment insurance, vocational training and skills development programs, job counseling, matching and placement services are some of the services that generally exist under one form or the other and which also produce a wide range of labor analysis and insights that could be harnessed for the production of further insights into the trends and signals of the labor market.

Yet, this labor market information is scattered, not catalogued and therefore not analyzed. It is also not centralized, which lessens access to it. Because the links with other institutions are so weak, a type 1 LMIS cannot fulfill the coordination function to alleviate this problem of widespread, hard to reach labor market information. Furthermore it falls very short of fulfilling its analysis function, since it does not benefit from regular access to highly relevant sources.

It is this **isolation of the Type 1 system** from employment services and other sources of labor market data that severely constrain its ability to process, generate and disseminate labor market information so that it can become relevant and useful for other stakeholders of the labor market.

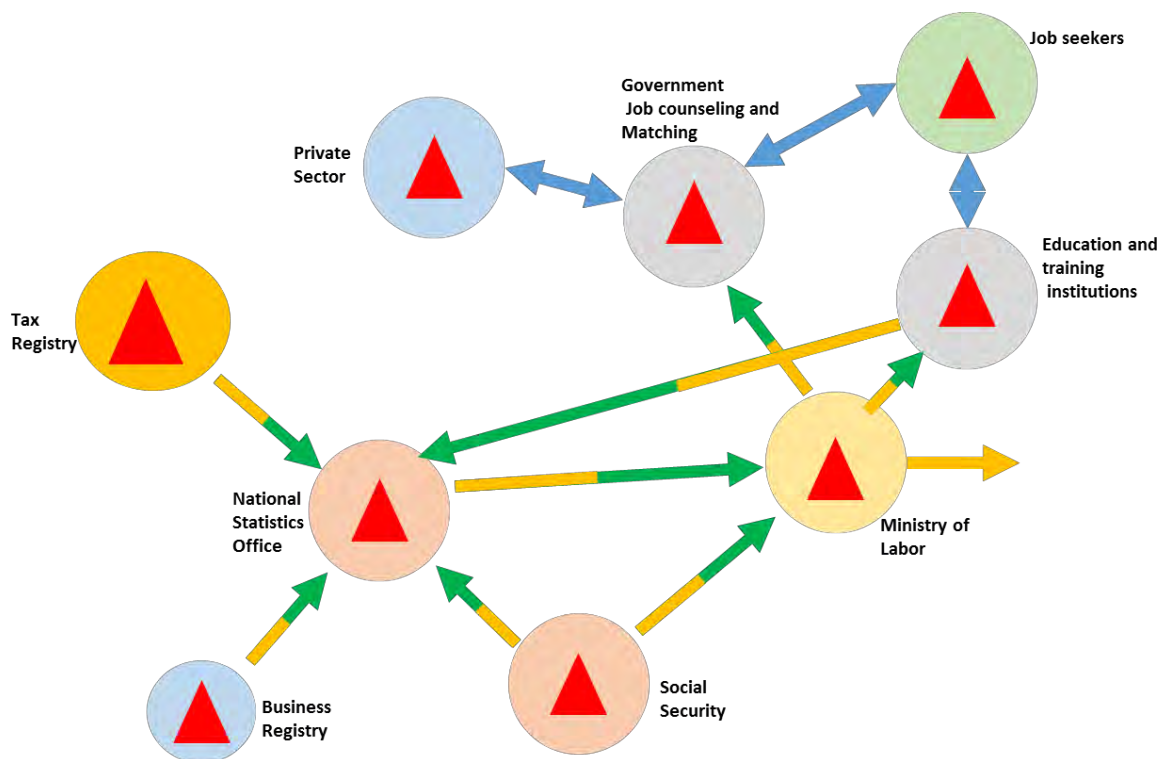
To strengthen a type 1 LMIS, this major shortcoming needs to be addressed. Yet interventions to improve LMIS have, it seems, mostly focused on raising the availability and quality of data, through (i) the implementation of larger and more frequent surveys or (ii) the building of the capacity of statistics

bodies, rather than developing stronger linkages between labor market information sources that would transform the LMIS into a type 2 LMIS.

2.5 LMIS TYPE 2

A type 2 LMIS' main characteristic is that it is comprised of more public actors actively involved in processing and sharing labor market information. They are able to uphold stronger links with one another than in a type 1 LMIS. Some of the actors contributing to the system are providers of employment and intermediation services such as state-run job matching and career services or vocational training centers uniquely positioned to share both quantitative and qualitative insights on service users. The representation below shows that more actors bring about more links, which in turn increase the likelihood of better data.

Example of a LMIS type 2: South Africa, Jamaica



There is among actors of the type 2 system a shared understanding that interventions in the labor market are far ranging. They span from raising productivity, improving access to education, increasing social conditions for workers and security on the job to reducing un- and under employment. These interventions rely on policies that are implemented across governmental departments, often collaboratively, and which cannot solely build on information stemming from the country's statistics department. Each contribution to the improvement of one facet of the labor market, necessarily builds on an internally led information gathering, processing and decision mechanism. These processes result

in deliverables (surveys, quantitative assessment contained in reports, articles, surveys), which may contribute to raising the availability and quality of labor market information in the system if they are effectively disseminated.

In a Type 2 LMIS, labor market information can therefore be said to stem from multiple sources. Several national datasets other than just core labor data (i.e. the indicators maintained by the central statistics office) are utilized to capture the reality of the economy and of the labor market understanding that LMIS stakeholders are plentiful and generate vast amounts of valuable information. Public sector data emanating from tax authorities (corporate and individual), social security schemes, business registries, universities and learning centers, central bank and agencies (investment or export promotion agencies, regulatory agencies such as telecommunications, health, etc.) are understood by system actors to be useful labor market information.

In a Type 2 LMIS, the state may maintain job-matching services between employers and employees, or at least encourage the publication of job announcements through mandatory or optional publication schemes. The National Employment Promotion Agency (NEPA) overseeing job centers and related websites and offering counseling and training essentially to optimize job matching are considered a natural part of LMIS, although the quality and availability of data these services produce can vary significantly. The LMIS may benefit from more dynamic labor data, which may be collected continuously, through the operations of the various job-matching services. From this information, the changing demand and supply trends of labor markets can better be observed.

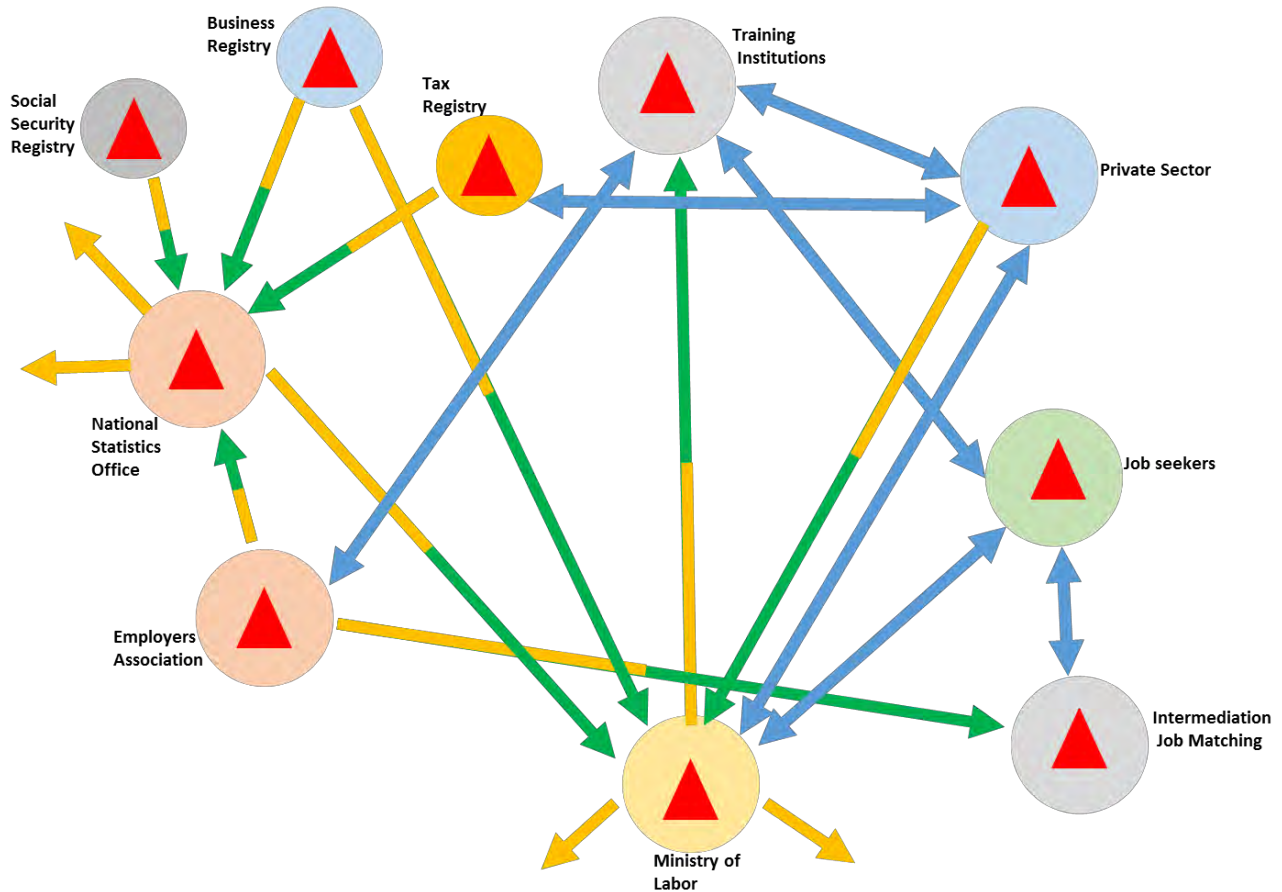
Containing more actors who share information regularly than a type 1 LMIS, type 2 systems nevertheless fall short in creating sufficient value for the private sector to take an active part. The private sector's feeble presence in the system is mostly restricted to being end beneficiaries of employment and intermediation services or taking part in labor negotiations as employer representatives (employer associations). While some form of privately run training and employment services exist in most countries, in a country with a type 2 LMIS, they cannot be said to be a part of to contribute to a profit oriented value creation process. What's more, private companies do not create or share information systematically with the government. As the main creator of jobs, low private sector participation is problematic. Companies are best placed to formulate their needs for skills and to imagine and implement trainings to raise the level of workers.

The question then becomes how to strengthen type 2 systems so that they can entice (i) the private provision of employment services and (ii) private sector contribution to the system with labor market information.

2.6 LMIS TYPE 3

An **LMIS type 3** comprises several public and private actors and provides several services. The private sector contributes to labor market information formation and entertains strong links with public entities of the system, as illustrated in the figure below:

Example of a LMIS type 3: UK, Ireland, US, Switzerland



A defining characteristic of a Type 3 LMIS is that the private sector constitutes a dynamic network of actors (employer's association, trade chambers, lobby groups) who are encouraged to share their insights that are, for instance, collected through firm-based member surveys or analysis of members' registration data. Type 3 LMIS includes participatory mechanisms where the government formulates policy based on regular inputs from private sector associations.

In the UK, for instance, the private sector is heavily involved in detecting skill shortages and formulating/developing actions to overcome these skill gaps. Employer-led, Sector Skills Councils (SSCs) develop Sector Skill Assessments involving evaluation of sectors to identify employer's short, medium and longer term skills needs, to evaluate skills development levels and to define ways to ensure the needed training (Powell, 2007, p. 132). These high value inputs are systematically legitimized by being

widely disseminated through official LMIS channels. The government acknowledges that the private sector is uniquely positioned to overcome information asymmetries and be effective labor intermediaries.

Within a Type 3 LMIS, private sector participation in LMIS is openly encouraged. In fact, companies who detect a commercial interest in processing labor market information can thrive. Private and Public intermediation services co-exist, transmit similar information, to different audiences and offer coverage over a wide spectrum of the economy, thereby reducing misalignment between demand and supply.

In the US for instance, companies have developed technologies that allow for querying multiple job posting databases in real time. This capability is useful for the employer or job seeker who can cross search a wide array of databases. But these companies also sell processed labor market analysis tools that can extract, monitor and capture important information on trends in vacancies (duration, sector, skill requirements), and available job profiles (skills availability, age, gender, etc.) for decision-making. One such company is "Burning Glass" whose product, they claim, "allows users to understand and adapt to the labor market in real time" by drawing from over 40,000 online sources and scrutinizing, on a daily basis, over a million job postings (Burning Glass, 2016).

These technologies offer entirely new ways to exploit available information and opportunity for analytical insight, namely for better employment policies. What is more, they are likely to evolve provided that the actors of LMIS are able to ensure an enabling environment where there are ample economic incentives for the private sector to contribute and grow.

Type 3 LMIS are therefore much more sophisticated systems that rely on collaboration from various level of government and strong public-private trust and cooperation. LMIS may still be centralized but the NSO or the Employment Department or equivalent play a more coordinating role to ensure transversal applicability and accessibility of labor market intelligence and analysis. Level Type 3 LMIS is a departure from a traditional top-down approach of manpower planning, encompassing a participatory approach to improving the labor market by making labor market information available to all stakeholders. IT collaboration platforms offering ways to harmonize data and promote information sharing amongst the stakeholders are key. An integrated and harmonized platform on labor market information (quantitative and qualitative data) should encourage stakeholders to use this new information, and link it to their own policy analysis.

3. PATHWAYS FOR IMPROVED LMIS IN AFRICA

3.1 MAKING LMIS RELEVANT FOR THE EMPLOYER, JOB SEEKER AND POLICY-MAKER

A well-developed LMIS does not automatically lead to better policies, jobs and skills. Continuously improving labor market support structures have allowed the more advanced systems to flourish, which in turn have improved the functioning of the labor market, further strengthening its stakeholders.

Applying our typology, we can state that advanced countries' LMIS have moved up the ladder from type 1 to type 2 and 3 as their labor markets have gained in sophistication.

In Australia, Denmark, France, the UK or the US, LMIS have become the knowledge base on which labor policies are built and the go-to place for workers and employers looking for work, training and skills. These countries' labor markets would not function like they do without up to date, readily available and precise information on local and national employment levels, skill demand foresights, job offers and vacancies, trainings and qualifications or user-friendly employment services.

In these countries, national and local development strategies build on solid foundations of up to date statistics, credible labor assessments and projections. When a person registers for unemployment in a job center a domino effect of actions immediately follow: a job profile is created in a database, automatically adjusting centrally managed statistical figures; benefit options are determined, including training options and career paths, which are investigated; CVs are published online; local and national job searches are conducted, and so forth. The same chain of events does not unfold in the African context where the impact of removing the implemented LMIS will not reduce job prospects or lead to a deterioration of the quality of policies.

In order to be a useful tool for the employer, job seeker and policy maker, an LMIS must become user-centric. The more online services these systems are able to provide, the more they are used, the more data they can capture, the more feedback loops they can create, and the more relevant and sustainable they become. Some of the avenues that need to be explored to engage with a job seeker, for instance, are online registration with a range of public and private training services, online access to career guidance counseling, soft skills trainings and unemployment benefits. With recent technological developments, transactional solutions are inexpensive to put in place and increasingly easy to maintain. Our central proposition is that the development of an integrated LMIS, can help set this virtuous cycle into motion. The question to be addressed is how we transform basic type 1 LMIS into 2s, or perhaps leapfrog directly into type 3s.

3.2 ANALYSIS OF THE CHALLENGES AND OPPORTUNITIES OF LMIS IN AFRICA

There are promising signs that the quality of LMIS in Africa is improving. Twenty-six out of the 38 African Union member countries (68%) in the AU LMIS inventory have either conducted a labor force survey since 2013 or are in the process of doing so in 2015-2016 (African Union, 2015). African Union leaders have renewed their commitment to strengthening labor market governance and specifically LMIS, through the 2015 Ouagadougou +10 Declaration and Plan of Action on Employment, Poverty Eradication and Inclusive Development. The resulting First Five-Year Priority Programme (2015-19) specifically aims to "strengthen the role and management of Labor Market Institutions (LMIs) and Information Systems (LMIS) as important components of national economic development planning" (African Union, 2015).

Furthermore, there are, in all countries, untapped sources of labor market information, be they from the private sector, public agencies in the form of administrative data (in Section 3.3, we will look into how and which sources could be put to good use) or from donor supported programs, basing their interventions on a wealth of assessments, studies, evaluations and progress reports. Such information

tends to be churned out without systematic regard for past evaluations or similar bodies of work elsewhere, and findings are not necessarily disseminated. Yet they are increasingly easy to access as they are more often than not stored on databases that could be made publicly accessible if they are not already.

3.2.1 Donor-led systems with limited sustainability

Despite these promising developments, however, and with some possible exceptions like Mauritius (Johanson & Adams, 2004) and South Africa, most LMIS on the continent remain stuck with basic systems, or what we refer to as Type 1 or entry level Type 2 systems. No truly convincing system exists in Africa that brings significant value to policy makers, employers and employees alike (Powell & Reddy, 2015). Despite LMIS' success as a subject of development assistance, the most advanced systems remain the preserve of developed countries as illustrated by our systems landscape.

Even with the focus on developing data-driven LMIS, to ensure that countries are able to maintain labor indicators such as KILM, Decent Work and AU defined minimal lists of indicators, Africa's LMIS are not yet able to fulfill the data requirements with autonomy or credible and consistent results as per standards of the ILO, which sets the agenda in this field. In 2004, the World Bank concluded in a study that the LMIS that have been set in motion in Africa are either discontinued, or their labor market information quickly becomes obsolete if not donor supported (Johanson & Adams, 2004). Almost ten years later, in 2013, Sparreboom highlights that the systems abilities to generate key labor market indicators are particularly weak throughout Africa, especially when compared to other world regions (Sparreboom, 2013).

Besides the lack of integration with employment services - which we will get further into, a key explanation for their underperformance is indeed the lack of financial support needed to bring about, and sustain, the required technical and human resources for LMIS development. LMIS are a hard sell in budget negotiations when competition for scarce resources is fierce and other pressing humanitarian or socio-economic issues appear more important than a tool for policy makers.

Indeed, all African countries are essentially confronted with the same financial constraints translating to resource scarcity, limited analytical capacity and other structural factors (Sparreboom, 2013). If LMIS are to deliver on their promise that better labor market information leads to better policy and decision making by labor market actors, then the current vicious circle depicted in the diagram below – in which LMIS are unable to deliver value because low demand fueled by weak data, analysis and dissemination lead to less allocated resources – needs to be broken. Lack of resources is, of course, a fundamental problem; however, beyond financial challenges, what characterizes and causes African LMIS' weak performance?"

Figure 6. LMIS Vicious Cycle



3.2.2 System ownership troubles

A major cause of weak African LMIS is that they remain peripheral, meaning not truly integrated with policy making channels, and as a result not actually informing the choices of labor market actors. One obvious reason for this is that the systems have been initially overseen and funded by international actors with the hope of eventually mainstreaming the tool into the day-to-day functioning and budget of the state apparatus such as the labor administration, the employment ministry, the planning ministry or the central statistics office, and managed and staffed by trained technically competent personnel. Buy-in from actors has been insufficient and there is probably a sense that LMIS projects drown amidst all other donor-led initiatives and fail to get the attention they deserve despite their potential importance for the labor market.

Another, more central explanation is that the responsibility for LMIS has almost always been attributed to the department in charge of statistics (usually, the National Institute of Statistics) that is by definition concerned with support rather than with operations (e.g. of education, health, infrastructure, or the economy) and thus removed from decision-making centers.

Generally entrusted with data collection on the labor market, statistical departments have been considered the natural owners of LMIS. Every one of the African Union's 38 focal points for LMIS development, for example, are high-level representatives of the country's statistical institutions. These

are the same institutions and individuals usually represented at meetings on and involved in the AU's 2012-2016 Labor Market Harmonization and Coordination Framework Project (LMHCFP)¹⁰ in Africa.¹¹

The problem with the location at the periphery of Government of LMIS is compounded since collaboration between departments tends to be weak in developing countries (Johanson & Adams, 2004, p. 58). They lack crucial human and technical means and, consequently, few are able to regularly collect labor market data, especially without outside help. Most data has been collected in the event of an externally financed, i.e. internationally backed project, and surveys, which constitute the backbone of a statistical system, are renewed irregularly, if ever. Labor Force surveys are often so complex to implement that it can take up to three years before final data is ready for dissemination. By then, the data might be significantly out of date and its usefulness for policy makers, as a consequence, reduced (Powell & Reddy, 2015, p. 7). These observations are supported by the "Inventory of countries LMIS" that the African Union uses to monitor countries progress. Botswana, for instance, conducted its first Labor Force and Manpower Survey in 2005. A new one is scheduled in 2015. Kenya's first one was in 1999 while its second one is to be rolled out in 2016.

There is also confusion, if not competition, between departments on who should be managing the LMIS. Designated focal points are not always the right choice either, making it unclear who is in charge, and diffusing responsibility for the actual running of the system. In Rwanda for instance, the AU's designated LMIS focal point is the Director of the Statistical Methods, Research and Publication Unit at the National Institute of Statistics of Rwanda (NISR) (African Union, 2015), but the country's dedicated LMIS unit is located at the Ministry of Public Service and Labor (MIFOTRA). The former attends ILO's meetings on Labor statistics while the latter considers collaboration "weak" with NISR, hoping that it will be strengthened when the country's first labor force survey will be rolled out (Interview LMIS unit - 05/10/2015).

Statistical departments lack resources and isolation is only part of the problem: the confinement of LMIS to the statistical departments is a powerful illustration of what we have described in section 1 of this report as being a too restrictive, data oriented focus of LMIS implementers. Moving LMIS to the department in charge of labor, or the economy, with effective support from the statistics department might be a move in the right direction, but it would still be insufficient. Palliative measures to guide LMIS towards a more integrated, service and private sector oriented model are needed.

3.2.3 Little value and analysis

3.2.3.1 Limited systems functionality

Referring to South Africa's LMIS, Powell and Reddy (2015) suggest "the systems that were developed were inadequate and failed to provide the end user ... with the intelligence that they required. The

¹⁰ See Annex for more information on the LMHCFP.

¹¹ A recent illustration: the African Union Technical Work Group on Labor Market Information and Informal Economy meeting held in Abidjan in August 2015 united "Technical experts from Department of Statistics of the African Union, the International Labor Organization (ILO), AFRISTAT, the UN Economic Commission for Africa; national statisticians from Burkina Faso, Cameroon, Democratic Republic of Congo, Egypt, Kenya, Ghana, Nigeria, Senegal, South Africa, Tanzania, Zambia and Zimbabwe as well as specialists from African Regional Economic Communities (RECS)" (International Labor Organization, 2015).

systems were capable of providing broad, macro level national data, but they were not able to provide specific sector-level indicators that could inform planners how to make improved decisions regarding the way in which resources were to be invested in skills". Our landscape review illustrates similar states of affairs very clearly:

- The Rwanda online system, which does reflect the data available at the level of the LMIS unit, contains only superficial information on skills availability and most available macro level information is out of date. Some of the data available is not made public, and there is no way to know about it or request it.
- The Botswana system's online registration to access information is not working, and its job database contains no recent postings.
- Cameroon's LMIS shows that there are only very few recent job offers, and there is no other recent labor market information to access online.

3.2.3.2 Little value for the private sector

The private sector association representatives that were interviewed were critical as well when it came to assessing the value provided by their national systems. For example, the GICAM (Cameroon Private Sector Association) representative pointed out that their members are most interested in knowing what skills are available, but have nowhere to turn for this kind of information (Interview GICAM, 05/14/2015). Similarly, the Private Sector Representatives of both Rwanda and Botswana argued that the country LMIS is not providing any value to the private sector since it contains no practical information on the supply skills or the extend of the skills gap (Interview PSF 05/13/2015; Interview BOCCIM 05/01/2015). Indeed, very little information on available skills (beyond general education information) are available in the countries' LMIS. Yet occupational information, skill distributions and shortcomings are arguably the most important type of information any LMIS should have. Only four of the 38 countries (10.5%) in the AU's inventory have rolled out skills surveys in the past three years (African Union, 2015).

3.2.3.3 Missing analysis

Although ambitions displayed are high, and might lead us to believe that LMIS will have value for the user, the majority of surveyed countries produce "at best...coherent summaries of their country's labor market. These are useful documents for economists and researchers, but, in the majority of cases, only minimal attention is given to the policy implications of the findings (Powell & Reddy, 2015, p. 7). Where statistical capacities exist, they have been excessively directed towards the process of data collection. Surveys are important instruments but if the data they generate is not analyzed, they have little applicability: "the outputs from the LMIS consist of large statistical books that are of little use to anybody but doctoral students and international agencies doing comparative studies" (Powell & Reddy, 2015, p. 7).

Still, the labor statisticians/economists and other analysts which could help maximize the utility of the available data by producing labor market intelligence are few - the low resource problem. Running a LMIS effectively, i.e. with proper analysis, requires qualified and trained analysts that are in high demand, and therefore expensive, so are difficult for the public sector to retain (Johanson & Adams,

2004, p. 59). In Rwanda, the only labor economist of the LMIS unit is overloaded and often tasked elsewhere in the Ministry. This makes it difficult to produce regular analysis and reports. The other three staff of the unit are IT specialists (Interview MIFOTRA, 05/10/2015).

3.2.4 Ineffective dissemination of labor market information

A related and central problem is that the labor market information available is not disseminated and thus stand little chance of being utilized by policy makers and other labor market practitioners unaware of its existence. According to Powell and Reddy (2015) this lack of dissemination is "one of the most significant failures of the LMIS system in low-income countries". When a labor market report is published, there might be a launch event organized and the report might be physically circulated amongst some of the key ministries and agencies. The report will probably be uploaded on the Ministry in charge of the publication's website but most often in a format (.pdf) that makes internet search engine indexation difficult. The launch of the report might be relayed by local media (most often a copy of the press release) but the key findings, rarely communicated beyond the immediate timeframe of the launch, are not subject to target-specific communication activities, and the messages therefore quickly drown in the mass of information. Consequently, the average job seeker or labor intermediary, for example, will probably never get the message about the skills that are in demand, and that he or she should develop, following the conduct of a census or survey.

It is therefore mostly people who are actively looking for labor market information - such as the researchers mentioned above by Powell and Vijay - that will manage to find some, because they will think to go to the statistics' office website, identify, open and read the reports. We have found no convincing example in Africa of formulating labor market information so that it answers the questions "what do these findings mean to me?" In other words, labor market information is presented with the recipient's point of view and situation in mind when in fact, labor market information should cater to many different target groups. The policy maker or the academic seem to be favored (given the data-centric nature of the system) but what about the employers, the job seekers, the students, their families, their counselors and labor intermediaries, i.e. the key players of the labor market?

Even when the information reaches the interested party, the packaging of it generally lacks any practical information on what to do about the situation, e.g. how to locate and apply at a training center where specific skills training exists to pursue our previous skills development example. Looking at entrepreneurial skills training in a country like Rwanda, we observe that there are numerous trainings on offer from both public and private providers. Yet, neither Rwanda's LMIS, nor any of the other Governments' websites, relay this information to the unemployed in a comprehensive way. Not only is compound information on the nature and number of such trainings inexistent, it is difficult for a potential trainee, an unemployed job seeker for instance, to find this

information designed for him or her. First, finding it requires knowing such trainings are available and open for applicants like this particular individual, then he or she requires guidance on how to access it. It is unclear how a country that lacks developed employment counseling can fill this void.

3.2.5 Low levels of private sector participation

All private sector interviewees have asserted that they do not really use their country's LMIS, even when they know of its existence. Nonetheless, they manifest an interest in the concept, especially for information on the availability and quality of labor supply. In Botswana, Rwanda and Cameroon, for instance, there is clear demand for knowing what pool of skills exist in the informal labor market, and in knowing how to access them, yet it is assumed that no such information exists (Interview GICAM, 05/14/2015). Employers are also interested in knowing what options (courses/trainings) and support mechanisms (simplified procedures, subventions or tax credits for professional training) exist to have their existing or future employees trained.

One explanation might be that the private sector is not effectively involved in the governance of the LMIS. When LMIS projects are set up, its backers insist on private sector participation, yet we have found no evidence, in the desk review or in the interviews, where this involvement goes beyond the employer federation, the chamber of commerce or similar institutions taking part in project steering committees. That the private sector has a decisive influence on what an LMIS should be able to do is crucial given the fact that the vast majority of jobs created, or that need to be created, are private sector jobs. Firms are best suited to determine and predict skill shortages and oversupplies or evaluate the effectiveness of education and vocational training. Their insights need to be harnessed in a systematic way beyond a role as survey respondents.

More active participation from private enterprises as co-managers of LMIS is required, but so is that of consumers and producers of labor market information. As we have determined, throughout the continent today, firms are only sporadically involved in the governance of LMIS, and as consumers, they view government statistics as incomplete, sometimes questionable. The GICAM representative from Cameroon, for example, stated that job creation figures are politicized and hence overestimated. Furthermore, immediately applicable labor market information such as the outputs of public online job banks and other labor intermediation services are practically not used because they are either void of significant content, or the quality of the available profiles is so uncertain (no screening of the profiles), that firms prefer to fill a vacancy on their own means - often relying on business and family networks - rather than depending on public employment services (Interview GICAM, 05/14/2015).

Private companies across Africa try to find commercial value in filling in the information vacuum on the jobs markets through the creation of online job intermediation portals.¹² A basic web search indicates that in all countries, private online job portals do exist, yet the usefulness of the sites as measured by number of CVs and latest job offerings vary greatly. In Rwanda and Cameroon, and probably most other African countries where obligations to publish vacancies exist only for state owned enterprises and agencies, job offers are far from numerous, most likely because, as stated earlier, companies use other networks to fulfill their labor demand (Interview MIFOTRA, 05/10/2015); Interview GICAM, 05/14/2015).

¹² Examples of the private intermediation portals include for Rwanda: tohoza.com; jobinrwanda.com; umurimo.com, for Cameroon: adrh-apave.com; camerjob.com, everjobs.cm

As producers of labor market information, private sector associations conduct studies on the labor market such as employer needs assessments or member surveys. They organize seminars or workshops which lead to reports, position papers with insights most likely useful for decision makers and labor market practitioners. As is the case for public labor market information, dissemination beyond their members and the closest stakeholders could be improved. The intelligence produced is not systematically included in national LMIS – indeed far from it – or relayed by them.

3.2.6 Absence of informal sector labor market information

New approaches to labor market information that depart from just looking at labor survey data are needed given the size of the informal economy throughout the continent's countries that dwarf formal businesses and employees. With over 80% of the labor force working in informal occupations, a system that focuses on formal labor market description, or on mapping the skills that a small formal sector demands, quickly shows its limit in terms of applicability and credibility.

Some data on the informal sector are in country pipelines: 12 out of 38 (31%) countries in the AU LMIS inventory have begun implementing informal economy surveys to shed more light on labor market realities in the pervasive informal sectors (African Union, 2015). The International Conference of Labor Statisticians (ICLS) and ILO's call for action to measure informality and facilitate transitions to formality push for these developments. However welcome these new figures will be, the surveys' detail and quality will vary from country to country, namely because countries still apply different definitions, measuring "informal employment" or the "informal sector" (Guenin, 2015).

A growing number of stakeholders and business research acknowledges that informal employment will remain persistent for decades, especially among youth, yet that the situation of those in informal employment can be improved. Improving the labor outcomes of informal workers, means raising the quality of the products and the services they produce, better leveraging of informal workers' assets as a process conducive to skills recognition and promoting value chain access and other forms of enterprise development support (Guenin, 2015).

Statistics should focus on measuring what is done to help informal workers and firms, for example the rates of transition into formality (which would give a good indication as to institutions' efforts to facilitate access) or the number of certifications and services provided, instead of concentrating all efforts on creating static snapshots of the situation that prevail in the informal sector.

However comprehensive, well designed and effectively implemented new informal sector surveys turn out to be, it is likely that they will face the same data collection challenges as other surveys, i.e. expensive and quick to become obsolete with little value if not properly analyzed or disseminated. As they do not represent a departure from the statistical approach used so far to develop LMIS in Africa, they will not be useful to employers and employees seeking to grow and make the transition to formality.

3.3 THE PATH TOWARDS THE INTEGRATED LMIS “TYPE 2”

3.3.1 Ensure high-level support to build an integrated knowledge base

In this section, we formulate practical recommendations to help transform basic LMIS into integrated ones (i.e. from type 1 to 3 as advocated throughout section 2).

Countries with basic LMIS will be better positioned to reach LMIS Type 2 or leapfrog to a Type 3, if, rather than going down the trodden path of LMIS development, i.e. concentrating efforts towards the production of employment statistics, priority is given to enrolling the support and participation of a broader network of ministries and other actors, public and private. We first argue that this will require support at the highest level of government for strengthened collaboration across ministries and sectors to create and share information that benefits employers and workers.

The engagement of new actors through the development of new institutional arrangements paves the way for exploiting existing sources of information and determining how they can be of use for employers and workers. We believe that this can be achieved through the implementation of practical, interrelated recommendations ranging from utilizing existing analytical tools and administrative data, especially on the economic context for skills development, to producing more in-depth local level assessments and to encouraging more private labor intermediation.

3.3.2 Ensuring high-level support

The first step in getting from a basic LMIS to an advanced one entails that decision-makers shift the focus of LMIS development away from the management of macro-level employment indicators, to supporting the development of skills and employment services that are adapted to the realities of African labor markets.

Without this recognition at the highest level of government, the organizational arrangements enabling cross-department cooperation on labor market information cannot materialize. International donors, too, need to internalize the idea that just because countries are able to submit Decent Work indicators to the ILO on a regular basis, on cannot assert that their LMIS are bringing any sort of value to employers, employees, labor market intermediaries or the policymakers concerned with creating better labor outcomes and growth.

High level support should materialize by building **three pillars** on which LMIS development can rest:

1. Network building because the system's dynamism and sustainability is defined by the number and type of public and private actors that are encouraged and able to contribute, and by its ability to entice new actors to join the system be its a producers or users of labor market information.
2. Strategic planning that centers on creating information and service value for the end-user
3. Collaborative and dynamic IT platforms which are constantly evolving to facilitate, as much as possible, the sharing of data and analysis in a seamless and user-centric way.

3.3.3 Exploiting existing sources of labor market information

Once high-level support for an integrated LMIS has been achieved, the objective should be to identify, mobilize and extract new labor market information from previously unexploited sources.

Administrative information is a major source of untapped hard and soft data that can be assimilated to labor market information. It is produced across the governmental spectrum and can take a variety of shapes, such as reports, evaluations, studies, raw data, statistics, brochures and briefing notes. Today, these data are increasingly easy to access: they're more often than not stored in databases. Making them public is just a matter of goodwill as technical barriers disappear. Beyond the traditional labor and statistics departments, information that relates to the labor market (hard data and intelligence) is regularly produced from the following departments:

- **The trade registry:** new and closed businesses by activity/sector, annual returns, shareholder structure, etc.
- **Social security and pension funds:** number of employees /members of funds, lengths of contract, flows of members into and out of funds, declared income, etc.
- **Public service department:** civil service employment flows, by age, gender, salary rates by education level, vacancies, etc.
- **Ministries of finance, planning, economy, industry and trade:** economic analysis and forecasting including employment forecasts, projected growth by sector, region, municipality, figures on trade in goods and services trades, changes in trade and investment flows, investment.
- **Tax authority:** tax payers by employment status (including in many countries informally employed¹³), payroll data, income tax growth projections, sectorial information, tax incentives accorded to investment projects, and municipal level tax collection data (including local business licenses).
- **Trade associations:** various membership data by trade and craft, including surveys.
- **Central banks:** foreign exchange and direct investment flows per sector, compounded banking information, including from microfinance institutions.
- **Immigration:** visa and work permits delivered by occupation/skill.
- **Education:** public and private enrollment (primary, secondary, tertiary, vocational training), dropout rates, graduates by competency, skill projections, professional trainings offered.
- **Agriculture, tourism, telecom/IT, mining and other sector-specific departments:** information and analysis, permits and business licenses granted, development plans including skill assessments.

Each source has advantages and limitations, but administrative records generally provide a low-cost source of labor market information (Sparreboom, 2013). If some of these sources could be identified, pooled, analyzed and packaged for consumption, then the shortcomings of African LMIS as isolated, low

¹³ In many countries such as Togo, Bénin, Burkina Faso, Mali and Cameroon, tax authorities collect local and/or national taxes from unregistered businesses, typically micro, informal firms. These taxes are called "*Impot synthétique*" (or, "synthetic tax"), "*Contribution du secteur informel*" (or, "contribution of the informal sector"), and are usually based on an estimation of annual turnover by tax inspectors, such as in Bénin, or based on a list of occupations, such as in Burkina Faso.

value and poorly disseminated systems that overly rely on resource intensive surveys could be alleviated. LMIS could be made much more relevant and rich in insights and signals. Instead of always seeking to gather more descriptive information on the orders of magnitude that prevail in the labor market (i.e. survey data), which is costly and time consuming, we should ask what insights on the labor market can be derived from existing sources of information.

We should focus on insights that could serve the policy-maker and the training practitioner who is concerned that the skills supply improves the prospects of the private sector, the job seeker and the employer.

3.3.4 Integrating analysis of the economic context and growth trends

Information that pertains to the unique and complex economic environment that shapes the workforce is particularly important to determine what skills are in demand or oversupplied, what sectors grow or show promise. Building a knowledge-sharing platform that centralizes, coordinates and facilitates access to economic and sectoral studies, reports emanating from the entire spectrum of government as highlighted in section 3.3.2 would be a significant step in the right direction.

Internationally, there are accessible, free (or at least available for a small fee) economic information and tools for analysis. Some are highly relevant to understand where current and future jobs are and will be, such as¹⁴:

1. **The Trade Share Matrix**, which shows strengths and weaknesses in the country's export market, relative to global past performance and global growth in demand of those segments. Understanding the market share of each sector within the economy allows for the design of programs that target sectors with the highest demand and export performance so that workforce programs can benefit the economy and vice versa. To refine the categories to an increasing number of niche areas of exports, it uses Global Trade Atlas's (GTA) numeric system to break down export industries to the level of products.
2. **The Product Space**, which shows the most successful export products for a country, using a special mapping of the products' relationships to one another. It depicts a network map in which products are closer to one another if growth in their exports is correlated. The map shows a country's economic complexity, which is, "a measure of the knowledge in a society that gets translated into the products it makes," and is "...dependent on the complexity of the products it exports." Analysis using the product space will identify potential spillover effects from one sector to another – one of the key ways in which economies develop. Based on what export products a country specializes in, it is possible to calculate the probability that the production of other goods and services that share the same human, physical, and institutional capital can become competitive too. The more closely related the products are to what the country is already producing, the easier this process is. For example, countries competitive in the export of

¹⁴ FHI 360's Workforce Connections team uses these tools to identify where current and future jobs are likely to be in developing economies.

fresh flowers also tend to be competitive in the export of fresh fish, since both depend on the existence of a world-class cold chain.¹⁵

3.3.5 Expanding knowledge of the informal labor market

As we have seen, informal firms are by far the biggest suppliers of employment in Africa. Transforming informal employment into more sustainable, decent and formal jobs requires understanding the dynamics of the sector and of the barriers that hamper the transition to formality. Taking the conventional statistical approach, i.e. simply describing the situation that prevails in the sector with labor force, household and informal surveys, to create this knowledge base is insufficient. These need to be complemented with new sources of information, working closely with organizations that actually interact with businesses and workers in the informal economy on a daily basis, and therefore have built a wealth of information in their efforts to provide a service or collect taxes. Three sources stand out:

1. **Microfinance institutions (MFIs):** in providing financial services to millions of unregistered entrepreneurs and small businesses across the continent, they capture a wealth of information on business activity, income generation capacity, revenue, growth, client bases and geographical location. Regulatory authorities that authorize their operations could facilitate partnerships with MFIs. Arrangements could include provisions for data transmission or arranging for new data to be collected by them, on behalf of the state. With hundreds of thousands of customers in many countries, they are often better suited than civil servants to formulate, analyze and evaluate interventions relating to informal labor markets.¹⁶
2. **Municipalities and tax authorities:** according to UNCTAD¹⁷, state and municipal authorities collect a range of taxes on informal businesses. Surprisingly, their payment does not qualify them for formal status. Income taxes designed for the informal sector or very small enterprises are called "synthetic tax" or "informal sector contributions" and are usually collected by municipal or tax agents directly at the business location¹⁸. In many African countries, such as Bénin, Ivory Coast, Burkina Faso or Togo, municipalities make entrepreneurs pay for the right to sell their products or services on their streets. At the time of collection, forms are generally filled and the information subsequently sits at the municipality.
3. **Trade associations:** across Africa, trade associations, for craftsmen for instance, as with the Malian "*Fédération des Artisans*", maintain data on their members who they attract by providing services, such as vocational trainings or governmental lobbying (Johanson & Adams, 2004).

3.3.6 Focusing more on local data

Jobs and job pools are locally based. As we saw in the landscape review (Section 2), in all advanced LMIS surveyed, increasingly detailed hyper-local labor market information has become the norm, allowing for comparisons across neighborhoods. Such is the case within boroughs of London or communes in France,

¹⁵ The Atlas of Economic Complexity (Center for International Development at Harvard, 2016)

¹⁶ According to MixMarket, there are 1.6 million depositors and 178'000 in Rwandan microfinance institutions. In Cameroon, the number of depositors is close to 1 million. (MixMarket, 2016)

¹⁷ As an example, in Bénin, in the Dantokpa market of Cotonou, users pay a municipal tax called "Patente" (World Bank, 2013)

¹⁸ In Burkina Faso, for instance, the tax is called "*Contribution du secteur informel*" (*Direction Générale des Impôts*, 2016)

for instance. The idea for African countries would be to incorporate this dimension, and step away from the default, i.e. the ambitions of attaining a national coverage.

A local approach covering a few selected and nationally representative territories, brings about 3 main benefits:

1. It is sometimes easier to fund investigations on geographically reduced perimeters.
2. Mobilizing actors at the local level is more manageable.
3. Increased opportunity for in-depth and accurate labor market assessments (namely because of pt. 1 and 2). This increases the possibility to apply findings to other local regions borders.

This approach does not prevent the subsequent extrapolation or aggregation/consolidation of information on several territories.

3.3.7 Developing new partnerships with research institutions

In order to successfully conduct these territorial investigations and develop cross-departmental collaboration, and given the likely shortfall in resources, our recommendation is to delegate LMIS management to research institutions. Universities that offer economics and statistical degrees would be a particularly good fit. As we saw in the landscape review, the UK has had great success in delegating to Durham University the management of the National Online Manpower Information System (NOMIS), the centralized information system on the labor market. Durham has overseen the system on behalf of the National Statistics Office since 1986.

Indeed, universities are able to mobilize and provide incentives to many students, who, as part of their coursework, could carry out a significant portion of data collection and treatment; and might, with the help of the teaching body and statistical institutes, work on analytical research. Universities are ideally suited to provide the kind of monitoring of the labor market and of its various stakeholders that LMIS in Africa need. Additional advantages of this approach, are the relative (i) neutrality of the university allowing the institution to overcome the turf wars associated with LMIS ownership and (ii) durability of the institution, more likely to overcome the effects of political and economic turmoil.

3.3.8 Strengthening private sector intermediation and participation

Despite the fact that the job matching systems in all the advanced LMIS included in our landscape review are publicly managed, private sector and online employer/employee intermediation are, we believe, the most promising way forward in Africa to facilitate job matching.

Private job matching websites exist in all developing countries we surveyed, and from what we can see, attract more job offers and job seekers than official government-promoted websites when these exist (as we have seen in Botswana and Cameroon). With the rapid spreading of the Internet in Africa, intermediation increasingly occurs through the web and, if applying medium-term reasoning, this tendency will accelerate over the next 5-10 years. Indeed, in developed countries, the Internet quickly became the default access to job offers, because it enables immediate access and extension of job searching's geographical range as it is possible to consult local, national and often worldwide offers

simultaneously. Besides public job matching sites, a wealth of private providers competes to offer online intermediation services.

The economic model underpinning this activity is such that intermediating firms are incentivized to dynamism and proactivity. The more there are customers (online profiles and postings) on the demand and supply side, the more there are potential revenue streams.

The question then becomes how to encourage the development of these online job markets when advertised job offers are few. One way would be to ensure that private publication is, with respect to the law, equal to publication through state sanctioned media. Another way is to expand requirements for publication that often apply to state owned enterprises and the public sector to smaller enterprises - in a manner that does not extend the regulatory burden and that shields the firm from extra scrutiny and harassment from state authorities.

3.3.9 Embracing Open Data: preparing for real time LMIS

An important technical recommendation is to leverage the power of data and analytics to shed new light on what governments are doing (and on what they could be doing) to spur employment. This can be achieved by; first, recognizing that data already exists in various databases of the institutions listed as promising sources of labor market information in Section 3.3.3. Indeed, governments are investing in new systems to replace old ones or automate processes that were previously done manually. For instance, elaborate tax information systems exist in most countries, which contain a wealth of information on formal and informal business activity. In Kenya and Tanzania, the respective revenue authorities' tax systems, track individual and business registrations, declarations and payments, tax incentives for investment projects or payroll in detail.¹⁹ This is much like their customs' management software produce detailed information on goods imported and exported, then used by Harvard University and the International Trade Chamber to compile the Atlas on Economic Complexity or the Trade Share Matrix.

The second is to encourage institutions to work towards opening up their databases (masking parts that contain personal information), allowing partner institutions and research institutes to access them and use the information without restrictions and remotely. Internationally, the process of making administrative data freely accessible is referred to as Open Data. These technological solutions need not be expensive or risky. So-called "web services", for instance, are not technically difficult to implement. Some countries in Africa have already signed the pledge for Open Data, and built platforms from which some datasets can be accessed: Ghana (Ghana Open Data Initiative²⁰); Kenya (Open Data Portal²¹); Morocco (data.gov.ma). Many more databases could be included in each country, and several more African countries could join these initiatives.

¹⁹ See, for example, Kenya's iTax (<https://itax.kra.go.ke/KRA-Portal/>) and TradeNet (<http://www.kentrade.go.ke/>) systems.

²⁰ <http://data.gov.gh/> (Ghana Open Data Initiative, 2016)

²¹ <https://opendata.go.ke/> (ICT Authority, 2016)

The same principles should not only apply for statistics though: again, classifying according to themes (using internet "tags"), publishing existing reports, studies, briefings so that they are freely available, and searchable by search engines should be systemized.

The process of opening data, will allow new players, especially private ones, to develop tools and produce labor market intelligence. One such system is the Real Time LMIS (RT-LMIS) which gathers and analyzes labor market information by scrutinizing automatically, using search-bots, a multitude of online job offers and employee profiles and extracting key information on evolutions in skill supply, demand and matching. The current world leader in this field is Burning Glass technologies, which claims to provide the best analytical solutions to address the skills gap (Burning Glass, 2016).

As online job matching grows, the technology will expand and more countries will adopt the technology. Within a few years, and as just seen in our previous recommendation, recruiting and employer/employee linkages will overwhelmingly take place online. We believe so called "Big Data" innovations such as RT-LMIS represent an opportunity for African countries as they automate, extract, compile and analyze data while facilitating access to findings. This, in turn, reduces the need for larger investments and human resources to monitor certain aspects of the labor market.

Countries that are not ready to implement such technology, should take steps to prepare for their arrival by opening up access to their various departments, digitalizing their archives and modernizing their databases. Such steps to create an enabling environment for a range of new LMIS actors will prove better investments than trying to maintain systems used by very few.

4. CONCLUSION

4.1 SUMMARY OF FINDINGS

In this study, we have strived to understand what LMIS are supposed to be and do. We quickly established that while LMIS should be servicing employers, workers, as well as policy-makers, in Africa they have especially targeted the decision-maker or the researcher. The reason for this has been a narrow focus on developing what we defined as "data-driven" systems rather than on developing "service-oriented" ones that benefit employers and workers first.

We made the case for the "integrated LMIS" which is achievable if employment services and statistical components are allowed to interact, and dynamically benefit from each other. This way practitioners can get the data they need to offer more adapted services to employers and workers, while analysts can use the data collected through the management of services to construct more accurate and predictive models of the labor market.

The comparison of national LMIS systems confirmed that advanced economies have all built integrated knowledge systems offering useful statistics that are enriched continuously (and automatically) through information relating to employment services. As a result, these countries are able to offer user-centric labor market information services to a wider range of users.

We have theorized this call for integrated systems by proposing a typology. It represents a new framework for evaluating national LMIS as a function of system participants and type of outputs. A basic data-driven system comprises few public actors with limited capacity, while on the other side of the spectrum, the advanced LMIS is strengthened by the private sector's active contribution to the system.

The analytical tool enables the identification of pathways that countries can follow to transform their LMIS into an advanced one. For African countries, the first step towards building the integrated labor market knowledge platform must be adopting a transversal and collaborative governance structure for LMIS. This will open up the opportunity for exploiting new sources of labor market information, namely to cast a brighter light on the economic context, especially on promising sectors and the informal economy. Secondary steps include implementing technically oriented solutions ranging from focusing on local level data, to outsourcing system management to research institutions, to making more room for the private sector to intermediate and working for more open data.

These recommendations are by no means exhaustive and further investigation into these pathways, such as defining concrete mechanisms for implementation, will be needed. Indeed, the process of transformation from a basic LMIS to an advanced integrated one is an undertaking of significant dimensions. New technologies have lowered the cost and the timeframe to get there, though, and with better support from international partners, there is no reason why employers and employees could not soon reap the first benefits that come with integration.

The African Union could play a significant part in promoting and facilitating the transition to integrated LMIS among its Member States.

4.2 WHAT ROLE FOR THE AFRICAN UNION IN SUPPORTING LMIS DEVELOPMENT?

The AU can become a driving force for LMIS development by first convincing Member States and Regional Economic Communities (REC) to adopt a new vision for LMIS and by encouraging competition between them. This could be achieved by:

1. Defining new standards for an integrated LMIS that gives prominence to the number and quality of services provided to workers and employers, to the availability of local level data and to the levels of institutional cooperation on labor market information.
2. Building an index of African LMIS, and the sharing of experiences, once the new standards are agreed upon. The index could include:
 - a. an online catalogue of countries systems including governance structure, strategic plans, functionalities and available labor market information in the broad sense (data, services including intermediation);
 - b. a ranking of systems based on the new standards (number and quality of services provided, local level data, number of institutional and number of active private contributors, number of system visits; and
 - c. promoting champions by highlighting and explaining best practices, focusing on how labor market information helped the worker or employer.
3. Defining measurable targets and ensuring the official adoption of these by each Member State and shared targets in each REC; and
4. Requiring countries to report on progress towards reaching the targets, and associating to this end, public and private players that are not only representatives of the statistical authority but of authorities in charge of skills and private sector development.

A more unusual role would be for the AU to propose technical assistance to their member states by developing templates such as ready to use online systems free of user rights (open source) which are aligned with, for instance, the state of the art for labor intermediation and international standards on labor statistics. The AU could also enter into a partnership with technology providers (such as Burning Glass) to offer member states who so desire access to cost effective technology solutions for electronic job markets and cutting edge labor market analysis. The adoption of the new vision for an integrated approach to LMIS in Africa will open the doors to many more innovative interventions.

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ANNEX 1: INSTITUTIONAL FRAMEWORK FOR LMIS DEVELOPMENT IN AFRICA

Several institutional and regulatory frameworks provide the political mandate for African States to develop their LMIS. These frameworks, which exist at both international and regional levels, oblige governments to develop national systems to adequately capture labor market information. This section provides an overview of these arrangements, mapping some of the most important resulting initiatives to develop LMIS in Africa, both past and present.

The Ouagadougou Declarations and Plan of Action on Employment, Poverty Eradication and Inclusive Development.

In LMIS literature, the 2004 Ouagadougou Declaration and Plan of Action on Employment and Poverty Alleviation is cited as the first official recognition by African Heads of States during the African Union Summit that LMIS are necessary and important instruments for poverty reduction and employment. The Declaration helped raise awareness on the specific need for LMIS by calling for more targeted efforts at regional and national levels to improve information and data on the labor market. It also marked a public promise by African leaders to prioritize job creation and the fight against poverty by cementing them to the core of African economic policy (Oumarou, 2013).

Though African countries had been producing some relevant labor market data prior to Ouagadougou, statistics systems were considered to be sub-par and, according to observers, the state of statistics had even been deteriorating since the 1970's and 1980's (AU, ECA, ADB, 2010, p. 4). Prior to 2004, the LMIS development agenda was filed under a multitude of more general initiatives to develop the Africa Statistical System (AfricanSS), an umbrella term coining the partnership composed of Regional Economic Communities (RECs), national statistical systems and regional and international organizations working on African statistics.

Recognizing that their countries' existing statistical systems were failing to inform stakeholders – especially policymakers – on relevant labor market data, each leader present at the 2004 Ouagadougou Summit thus committed to developing both the scope and capacity of their respective LMIS. They pledged to develop LMIS that would sufficiently and adequately collect and capture the characteristics, dynamics and tendencies of the actual labor market to help build more effective poverty reduction and employment policies (African Union, 2011).

In 2015, African Heads of State reasserted this commitment, through the Ouagadougou +10 Declaration and Plan of Action on Employment, Poverty Eradication and Inclusive Development. The ambition is now to elevate the roles of labor market institutions and LMIS as “important components of national economic development planning”. The resulting First Five-Year Priority Programme on Employment, Poverty Eradication, and Inclusive Development (2015-19) aims "to strengthen the role and management of Labor Market Institutions (LMIs) and Information Systems (LMIS) as important components of national economic development planning." (African Union, 2015). In particular,

"stronger, functional and harmonized LMIS in place at continental, regional and Member State levels" are one of the key results of the programme (African Union, 2015).

The development of the African Statistics System 1990-2006

Several initiatives contributed to the development of the AfricanSS over more than a decade. The Strategy for the Harmonization of Statistics in Africa (SHaSA) – a joint strategy by the African Union Commission (AUC), the UN Economic Commission for Africa (UNECA) and the African Development Bank (AfDB) on which the following section will elaborate further – best summarizes the most important of these (p. 4-8):

- **1990:** the Addis Ababa Plan of Action for Statistical Development in Africa (AAPA) was adopted by the ECA Conference of Ministers and encouraged the development of National Statistical Systems (NSS).
- **1997:** the General Data Dissemination System (GDSS) was launched by the International Monetary Fund (IMF) and the World Bank, strengthening collection capacities on a number of macroeconomic and socio-economic indicators.
- **2002:** the International Comparison Program for Africa (ICP-Africa) aimed to build capacity in Africa for statistics in order to allow for better cross-country comparisons in purchasing power parity.
- **2004:** the Marrakech Action Plan for Statistics (MAPS) recommended that States, in order to develop their statistical systems, elaborate and adopts National Strategies for the Development of Statistics (NSDS).
- **2006:** the Reference Regional Strategic Framework for Statistical Capacity Building in Africa (RRSF) built on MAPS, but was particularly focused on the implementation of NSDS; by 2009, NSDS with LMIS improvement objectives were implemented or being implemented in virtually all African countries (African Union, 2012).

Despite these efforts, and the commitments outlined within the 2004 Ouagadougou Declaration, the AUC, UNECA and AfDB recognize in the SHaSA that AfricanSS is still plagued by institutional and organizational weaknesses. These include: low political prioritization and funding for statistics; inadequate institutional capacity, coordination and information sharing; insufficient resources; and poor data and knowledge management, data quality and analysis, and dissemination processes (AU, ECA, ADB, 2010).

The 2009 African Charter on Statistics and the Strategy for the Harmonization of Statistics in Africa

Today, Africa's high-level commitment to the development of statistics is cemented in the African Charter of Statistics (ACS), adopted during the second ordinary session of Heads of States of the AU, held in Addis Ababa in February, 2009. ACS provides the legal framework for statistics development in Africa and "encourages African policy makers to use statistics as a base for policy formulation, monitoring and evaluation and decision-making" (African Union, 2012, p. 44). The AUC as the body charged with spearheading regional integration processes and Africa's development overall, is leading continent-wide efforts to harmonize statistical systems together with UNECA and AfDB.

The ACS builds on prior statistics initiatives listed above, as well as on the United Nations Fundamental Principles of Official Statistics. It establishes six principles for national statistics systems, which are:

1. Professional independence;
2. Quality of data;
3. Mandate for data collection and resources;
4. Dissemination of data;
5. Protection of individual data, information sources and respondents; and
6. Coordination and cooperation (AU, ECA, ADB, 2010).

The ACS calls for a harmonized approach to statistics in order to measure progress towards achieving continental-wide social, economic, political and cultural integration—a long-held goal of African leaders (AU, ECA, ADB, 2010). As of December 2012, however, the Charter had only been signed by 21 countries despite having been described as “an essential tool for statistical development in Africa” (African Union, 2012).

To help implement the Charter, AU member states adopted the Strategy for the Harmonization of Statistics in Africa (SHaSA) in July 2009 in Libya. Each country’s NSDS is supposed to be aligned with the SHaSA, which seeks to:

1. Produce quality statistics for Africa;
2. Coordinate the production of quality statistics for Africa;
3. Build sustainable institutional capacity in the African Statistical System; and
4. Promote a culture of quality decision-making.

The African Statistical Commission (StatCom Africa) composed of the Heads of National Statistics Organizations and which held its first meeting in January 2008 was designated the steering committee in charge of mainstreaming the ACS in African states and implementing the SHaSA. StatCom Africa reports to the Ministers of Finance of UNECA member states.

On the Labor Market Statistics working area comprising LMIS development, the AUC is the lead agency (UNECA and AfDB are leads on other areas such as national accounts or investments). Its' LMIS Coordination and Harmonization Framework Project (see below for more details) is the main channel of AUC's work in the area. This prioritization is aligned to the call of Heads of State who in Malabo, in June 2011 adopted a Declaration on Youth Employment by which they committed themselves to: “Maintain, extend and harmonize LMIS in support of employment policy formulation, implementation and evaluation; improve and increase responsiveness of the education and training systems to current and future labor market needs in order to address the pervasive and structural skills mismatch; ... and achieve policy coherence in National and Regional Certification Frameworks for Education and Vocational Training” (African Union, 2011)

ILO, LMIS and the Decent Work Agenda

As the main organization working on labor issues internationally, the ILO is extensively involved in LMIS development in Africa as the main provider of technical assistance on labor issues for national institutions in charge of labor (Ministries, Workforce development agencies). Like in Rwanda, the ILO is behind the design of the IT system in several states that make up the country's LMIS. The ILO has also designed a list of Key Indicators on the Labor Market (KILM), classified under eight categories in order to facilitate labor market analysis (Lisk, 2012).

Since the 2008 ILO declaration on Social Justice for a Fair Globalization, the ILO's work and technical assistance for developing LMIS have been implemented through the prism of the Decent Work (DW) agenda and promotes the production and dissemination of DW indicators to monitor and evaluate social and employment programs (ILO). Four strategic pillars make up the DW agenda: full and productive employment, rights at work, social protection and the promotion of social dialogue (International Labour Organization, 2012). These pillars are organized within the ILO Framework on the Measurement of DW, which covers ten areas of statistical indicators corresponding to the four pillars. These are:

- Employment opportunities
- Adequate earnings and productive work
- Decent working time
- Combining work, family and personal life
- Work that should be abolished
- Stability and security of work
- Equal opportunity and treatment in employment
- Safe work environment
- Social security
- Social dialogue, employers' and workers' representation

All indicators are extensively detailed in the 2012 Decent Work Indicators Manual (International Labour Organization, 2012). They illustrate that fulfilling the DW agenda requires measuring the quantity, quality and distribution of work as well as the conduciveness of the work environment. However, information on distribution of employment by sector or skill/education to employment matching is largely absent from ILO's focus—a critical gap in LMIS development programs supported by ILO in Africa.

Recently though, the ILO is pushing for more data on informal employment with the aim of facilitating the transition to the formal economy. This is especially done through the International Conference of Labor Statisticians (ICLS) which in 2012, after establishing the Delhi Group on Informal sector statistics in 1997, elaborated guidelines concerning a statistical definition of informal employment (2003), a database and manual on measuring informality in 2012 (International Labour Organization, 2013).

ANNEX 2: OVERVIEW OF LMIS TECHNICAL ASSISTANCE

Afristat and LMIS

Since its creation, Afristat²² has been actively involved in developing LMIS in Africa, particularly through the Regional Project for improving labor market statistics and strengthening the management of labor market information and systems for monitoring poverty in Africa (LMIS-Afristat) project, supported by the African Capacity Building Foundation and the RECAP project summarized below.

Aside from its regional objectives, the LMIS-Afristat project has national components in five target countries (Cameroon, Mali, Nigeria, Uganda and Zambia), wherein national agencies are responsible for implementation. These include: the National Employment Fund (Cameroon); the Observatoire de l'emploi et de la Formation (Mali); the National Manpower Unit (Nigeria); the LMI Unit of the Department of Labor, Ministry of Gender, Labor and Social (Uganda); and the Planning Unit of the Ministry of Labor and Social Security (Zambia).

Since 2004, the LMIS-Afristat project has sought to remedy what was perceived as the “catastrophic situation of statistics” in these five target countries where Labor Market data was “sparse, scattered, not harmonized nor consistent with any standard in terms of definitions and concepts.” Now evolving into its 11th year, the project continues to aim for improving labor market information production and dissemination for better public policy formulation and to strengthen poverty monitoring systems. At the national level, focus has been on building the capacity of governments, social partners and institutions to ensure regular collection, analysis and dissemination of information relating to the labor market. (Le Partenariat Afrique-UE, 2012). National project activities have included (Afristat, 2016):

- Raising awareness on the need to improve LMIS;
- Improving LMIS systems by organizing information providers in networks, by better managing databases and systems and by strengthening the capacity for analysis; and
- Better utilizing existing information to create analysis more useful for specific user types.

A regional project unit assists national activities by (Afristat, 2016):

- Building a network of regional and sub regional organizations working on labor statistics and poverty reduction: WAEMU, CAEMU, SADC, etc. to ensure synergies and economies of scale
- Setting up a regional database on methodology, the tools and instruments for the collection, analysis of poverty and labor data. The idea is to encourage the sharing of experiences and best practices and experiences between national statistics units and to promote knowledge and

²² Afristat is an institution based in Bamako, created in 1993, whose initial members are the 14 countries of the Franc Zone; the French government financed its establishment. Currently, Afristat relies on a mix of member state contributions and grants from international organizations such as the ILO who entrust the organization with continent-wide, regional or national project management in the field of statistics development (Le Partenariat Afrique-UE, 2012).

know-how on harmonization of indicators, concepts and methods. A training manual on developing and implementing LMIS was published in 2007 and contains useful guidelines.

- Compiling a regional report based on national information.

Strengthening Capacity for the Production and Analysis of Decent Work Indicators (RECAP23)

Implemented by ILO's International Training Centre (ITC) in partnership with Afristat and with financial support from the European Union, the RECAP project aims to improve LMIS for formulation, implementation and monitoring of public policy to promote decent work.

Implemented with national project components in selected countries in Africa (Benin, Burkina Faso, Mali, Senegal) and Latin America, the RECAP project ran for three years (2010-13) and involved, first, the organization of a workshop on analyzing and measuring decent work, technical and institutional reviews of LMIS and the preparation of an advanced template survey (International Labour Organization, 2016). The tools and methods developed were then validated regionally before being disseminated nationally through trainings.

One of the key project outcomes was a study on Senegal's LMIS system²⁴ prepared by Afristat and published in 2012 by the ILO's International Training Centre within the framework of the RECAP project (Centre International de Formation, 2011). The study analyses the strengths and weaknesses of the existing LMIS of Senegal and the country's institutional capacities to generate labor market data, especially decent work indicators. It proposes a plan to build technical and institutional capacity in the country to improve LMIS in Senegal.

Labor Market Harmonization and Coordination Framework Project

As leader of the labor statistics working group of the SHaSA, the Labor Market Harmonization and Coordination Framework Project (LMHCFP) is the AUC's main vehicle to develop AU member states' LMIS, to improve national employment prospects and advance African integration for which an effective and harmonized LMIS is imperative. The project results from the 2010 organization of the capacity

²³ *Renforcer les Capacités pour la Production et l'Analyse des Indicateurs du travail décent (RECAP)*

²⁴ *Revue technique et institutionnelle sur les systèmes d'information sur le marché du travail (SIMT) (Centre International de Formation, 2011)*

building and planning workshop on the “Harmonization and Coordination of the LMIS in Africa” and several consultations held with key stakeholders.

The vision of the project is to improve the labor and employment policy setting, monitoring and evaluation processes in Africa. More specifically, its objectives are to:

- define a set of key labor indicators aligned with the Ouagadougou declarations action plans
- facilitating the harmonization, coordination and coherence of the labor and employment data collection, treatment, analysis and dissemination at all levels
- ensuring a regular production of labor harmonized and coordinated labor statistics
- promoting awareness of, and accessibility to reliable, affordable and accurate labor/employment data to all the stakeholders; and
- enhancing technical and institutional capacity of each states' LMIS (African Union, 2011)

Achievements thus far include the production a minimum list of labor, employment and TVET indicators (with support from the UNDP West Africa Regional Centre), a harmonized questionnaire for labor force survey, a methodological guide for labor force survey, harmonized questionnaire for establishment and for the informal economy surveys and a Plan of Action (2012-2016) for the implementation of the LMIS-HCFP (African Union, 2012).

Enhance Labor Opportunities to Improve Social Environment (ELOISE) Project

The ELOISE project (2010-2012) funded by the EU has sought to compare European LMIS with analysis of Côte d'Ivoire, Morocco and Peru LMIS. Its' approach has been to promote a more local approach to LMIS as well as sharing good practices between targeted countries. One of the main project outcomes has been the publication of a comparative report on the LMIS of Ivory Coast, Morocco and Peru (Zito, 2011).

Regional Economic Communities and LMIS

Through their Regional Integrated Employment Policy Frameworks, Regional Economic Communities (RECs) recognize the shortcomings of their Member States' LMIS and ensuing problems for planning, monitoring and harmonizing LMIS.

The Ouagadougou +10 Declaration highlights the leadership role REC's should play in monitoring and evaluating productive employment and labor migration within the framework of regional and inter regional cooperation. It acknowledges, though, that this will require capacity building for RECs and Member States "to enable local authorities to promote local economic development and employment" (African Union, 2015). The process has started: in WAEMU, a Sub-regional Observatory on Employment and Vocation Training (SOEVT) is being implemented and the ECOWAS has plans to establish an LMIS at Regional level that should contribute to the development of regional strategies on employment.

ANNEX 3: INTERVIEWEES

The objectives of the interviews were to:

- assess awareness on the availability of labor market information in the country and on the measures taken by international and national institutions to promote LMIS;
- obtain opinions on (i) the main obstacles for improving employment opportunities, in particular for youth and women, and (ii) on the challenges faced in collecting, analyzing, disseminating and using information on the labor market; and
- discuss opportunities for improving the flow and usefulness of information on the labor market.

Interviews were conducted with the representatives from the ministries of labor and employment, national statistics office, employer/private sector associations. The interviews listed below were carried out by phone or Skype during May-June 2015.

Rwanda:

- a) Mr Dominique Habimana, Director, Statistical Methods, Research and Publication Unit and Mr James Byiringiro, Team Leader for Labor Statistics, National Institute of Statistics of Rwanda (NISR), May 6, 2015
- b) Mr Pacifique Karinda, LMIS Team Lead, Ministry of Public Service and Employment (MIFOTRA), May 10, 2015
- c) Mr Antoine Manzi Rutayisire, Director of Advocacy, Trade and Labor relations, Private Sector Foundation (PSF), May 13, 2015

Cameroon:

- d) Mr Vincent Kouete, Head, Department for economic affairs, Cameroon Inter-Employers' Association (GICAM), May 15, 2015

Botswana:

- e) Mr Dichaba Molobe, Director of Policy and Advocacy, Botswana Chamber of Commerce (BOCCIM), June 1, 2015