Unlocking North Africa's Potential through Regional Integration : Challenges and Opportunities

Santi, Emanuele

African Development Bank

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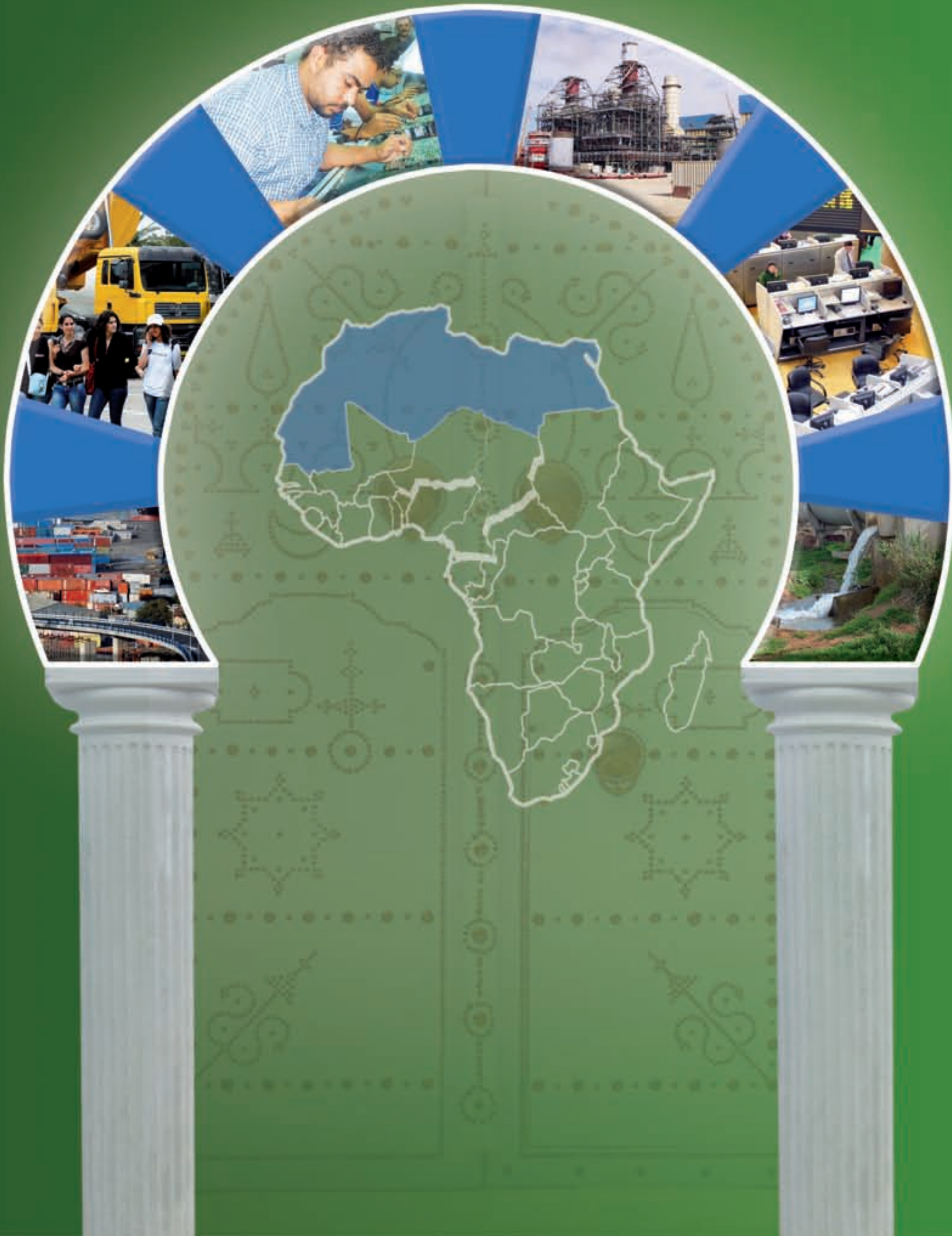

African Development Bank

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CHALLENGES AND OPPORTUNITIES

Edited by

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Foreword

Deeper regional integration within Africa is imperative to build markets and new opportunities for growth, job creation and improved living standards. Regional integration can create more robust, competitive and diversified economies, and attract and reward new sources of investment finance. Regional integration has been a longstanding goal of the African Development Bank Group and featured prominently in the 1964 Agreement that established the institution.

Regional integration is highly relevant for North Africa; a region which has greatly benefitted from integration with Europe but is yet to take full advantage of cooperation amongst its members. Despite strong ties due to a common history, religion and language, the North African region remains poorly integrated. The economic cost of this lack of integration is estimated to be around 2 to 3 percent of GDP.

Further to the momentous political and economic upheavals underway in some of these countries in the region and in view of the anticipated crisis on the northern shore of the Mediterranean, the quest for new economic opportunities is becoming increasingly important. It is, therefore, a particularly opportune time to look at how the often overlooked opportunities for closer regional integration within North African countries can help them to strengthen their development. It is our hope the analysis of these opportunities will help generate a rich debate on development policies as new governments and social relationships are being formed.

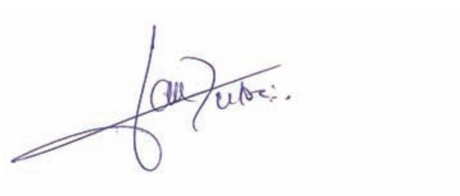
This volume considers how regional integration could enhance economic development in North Africa, lays out the principal barriers to integration, and discusses changes in domestic policies, and in international economic relationships both within and beyond the region, that could further integration. Particular attention is paid to how development strategies in the six North African countries need to be altered, and at times accelerated, to reap the benefits of a more integrated region.

The publication is a milestone in guiding the Bank Group interventions in the region as well as providing the analytical underpinnings towards the definition of a regional integration strategy, which the Bank plans to develop over the coming years.

The publication stems from a highly participatory process, which has been based on technical consultations with North African countries, as well as with two RECs based in North Africa, the Arab Maghreb Union and CEN-SAD. It was prepared during tumultuous times and may not fully feature some recent developments. It is, nevertheless, a good attempt at capturing some of the longer term opportunities countries can seize.

The volume also benefited from reviews and insights from some our key development partners, including the World Bank, the United Nations Economic Commission for Africa and the OECD.

We are confident that the spirit of collaboration that characterized this exercise creates a good basis for dialogue, and we hope it will be further strengthened in this critical juncture to ensure the achievement of North Africa's development aspirations.



Janvier Litse
Acting Vice President
Country and Regional Programs and Policy
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Preface

Jacob Kolster

Geographically defining the northern rim of the continent, North Africa constitutes a central part of Africa and a beachhead to the Middle East and Europe. Producing about one-third of Africa's total GDP and the home of nearly 170 million people, North Africa is the most prosperous region on the continent and occupies a geopolitical position that goes significantly beyond its economic weight. Most recently, since Tunisia's kick-off on January 14, 2011, the region has also become the epicenter of social and political change—and thus become the inspiration for millions of people in the Middle East and the world over. Against the backdrop of relatively strong economic growth and what was perceived as solid progress towards achieving the Millennium Development Goals, the Tunisian revolution and the contagion in other countries in North Africa came as a surprise to most observers, inside and outside the region.

While turning points tend to defy predictions, many of the key drivers behind the calls for change had been identified and were underway for some time—notably a gradual slow-down in investments and growth, the very high levels of unemployment among youth, educated youth in particular; the entrenched and, in some cases, very high levels of poverty and within borders regional disparities; and the modest progress in areas related to voice, accountability and transparency. Experiences from fast-growing emerging regions elsewhere in the world suggest that addressing these challenges will require stronger and more broad-based and inclusive growth. Regional integration and, through that, unlocking the potential of scale-economics and improved competitiveness of countries in the region, could well be a missing element in a concerted effort to establish the underpinning for strengthened and more broad-based and inclusive growth in North Africa.

However, regional integration is still in its infancy in North Africa. With intra-regional trade accounting for less than 4 percent of total trade, the region is the least economically integrated neighborhood in the world. Historically, integration among North African countries has been limited by intra-regional politics combined with strong bilateral interests in integrating with Europe and, more recently, a drive towards Sub-Saharan Africa.

Nevertheless, opportunities abound but needs to be unlocked. Tunisia, Morocco and Egypt exhibit strong private sector development coupled with large financing needs, while Libya and Algeria feature a surplus of capital and represent a growing market for services and goods coming from within the region. Industries such as financial services, information technology and manufacturing, already account for a significant portion of North Africa's GDP growth, and would greatly benefit from access to regional markets and labor pools. Food security could also be enhanced if foodstuffs that are abundant in one part of the region could be easily shipped to other areas where there are shortages. Developing an integrated energy market would also help unlock the region's full potential by filling intra-regional gaps and needs, as well as linking the region to an integrated Mediterranean market for energy. In using the strengths of one country to compensate for a neighbor's deficiency, regional integration creates conditions for participants to better protect and exploit the shared wealth in natural resources.

The rewards that would flow from greater regional integration across North Africa seem clear: increased economic activity, enhanced competitiveness, more effective use of resources and the stimulus to growth and development that could flow from a much strengthened exchange of ideas, services, goods, finance and people. In the following, a number of areas are highlighted where opportunities for integration are evident and which could serve as important regional growth drivers.

The uncertainties of the ongoing transition in North Africa could lead some to suggest that regional integration--a contentious topic under any circumstance—does not belong among the top-priorities for the region's policy makers at this juncture. They are wrong! Regional action and integration could generate significant growth impetus and provide the region with a valve for social pressures.

With the aim to provide a stronger and more strategic framework for regional integration, the AfDB is developing a Regional Integration Strategy for North Africa, which will be finalized as soon as circumstances allow and meaningful consultations can be conducted with all countries of the region. Meanwhile, and in preparation of the full Strategy, analytical and diagnostic work has been undertaken in six sectors or areas-i.e., energy, climate change and environment, financial sector, trade facilitation and transport, information and communication technology and human development-with a view to identify and map the potential and challenges presented.

Following a brief overview of regional integration in North Africa, this report provides a presentation of the key opportunities and challenges presented by the proposition of regional integration in each of these sectors or areas.

We hope you may find this report useful and would welcome any feedback you may have.

Jacob Kolster
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Acknowledgments

This publication was prepared by staff members and consultants of the African Development Bank, as part of the preparation of the Bank's Regional Integration Strategy for North Africa and under the guidance of Jacob Kolster Director of the North Africa Regional Department 1, and input from Nono Matundo-Fundani, Director, North Africa Regional Department 2 and Alex Rugamba Director, Regional Integration Department. The production of this publication was coordinated by Emanuele Santi, William Shaw and Saoussen Ben Romdhane with input from Malek Bouzgarrou and Hatem Chahbani.

The Bank also acknowledges the contribution by the Japanese International Cooperation Agency (JICA) and the German Cooperation (GIZ) for the resources provided though their Bank managed Trust Funds.

Technical contributors benefited from input of high level policymakers, private sector, regional economic communities and donor agencies which have been consulted during field missions across the region. The notes also benefited from extensive consultation both internally and external, including through peer review of key development partners such as UNECA, World Bank and OECD. To this effect, the authors acknowledge the contribution and the coordination of peer-review input by Jonathan Walter, Director of the Regional Strategy and Program, MENA region (World Bank) and Karima Bounemra, Director of the Sub Regional Office - North Africa (UNECA).

The Energy note has been prepared by Hussein Razavi, Emmanuel Nzabanita, and Emanuele Santi. The note has been reviewed internally by Siham Mohamed Ahmad and Sebastian Veit, and externally by Merieme Bekaye (UNECA) and Silvia Pariente-David (World Bank).

The Climate Change and Environment note has been prepared by Siham Mohamed Ahmad and William Dougherty. The note has been reviewed internally by Youssef Arfaoui, Richard Anthony Claudet, Sebastian Veit, Balgis Osman-Elasha and Dorsouma Al-Hamdou and externally by Dorte Verner (World Bank).

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The Human Development Regional note has been prepared by Joao Duarte Cunha and Anja Linder with contributions from Sunita Pitamber and Carla Felix Silva. The note has been reviewed internally by Gehane El Sokkary, Nadab Massissou and Ndoli Kalumiya.

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Part I

OVERVIEW OF REGIONAL INTEGRATION IN NORTH AFRICA

1.1 Defining Regional Integration: Key Concepts and Theories

Saoussen Ben Romdhane and Emanuele Santi

Over the past decades, developing countries have progressively embraced integration as a key strategy for economic growth and poverty reduction. The impact of globalization has reaffirmed the need to press forward with regional economic integration (Schiff and Winters, 1998). By integrating with neighboring, larger economies, smaller and less developed countries become better positioned to participate in regional and global supply chains, thereby expanding their market access, attracting foreign direct investment flows, enhancing private sector activities, and increasing economies of scale (World Bank, 2009). Balassa (1987) distinguishes five main types of regional arrangements which involve different trade and welfare effects for regional partners as well as for third countries:

- A free trade area (FTA) where trade restrictions among member countries are removed in full, while each country retains its own trade policy against third countries. Rules of origin then become necessary in order to establish the conditions under which an item qualifies for preferential access within the area. Some FTAs have recently included provisions to liberalize investment rules, services trade and government procurement.
- A customs union goes one step further than an FTA and adopts a common external tariff against third countries.
- A common market is a custom union that also allows for the free movement of factors of production (capital and labor) among member countries.
- A monetary union is a common market with a single currency and monetary policy.
- An economic union extends the integration process beyond that of a common market by including harmonization of some of member countries' economic policies, particularly macroeconomic and regulatory policies.

While regional integration can deliver several economic benefits in the long term, it inevitably produces winners and losers in the short run (Venables, 2003). Regionalism drives economic growth by shifting resources (and therefore jobs) from lower to higher productivity areas (Maruping, 2005). Resources tend to flow towards existing clusters of economic activity, leaving economically disadvantaged areas to fall further behind. There is a strong case for financial assistance to help households and firms manage the transition process and enable lagging regions to catch up. Regional integration among partners at different levels of development may also involve unwanted patterns of specialization (as less developed countries find it more difficult to compete in more sophisticated markets) and the loss of monetary control and exchange rate flexibility in the case of monetary unions.

World Bank (2008) outlines the potential benefits and costs than can accrue from regional integration (see Box 1).

Box 1. Potential benefits of regional integration

- Increased returns and increased competition. Regional integration enlarges markets through the integration of small economies, thus promoting economies of scale and intensifying competition, leading to lower prices and expanded supply.

- Trade and location effects. Preferential reductions in tariffs within regional agreements can induce shifts in both demand and supply. The net effects on national income depend on the costs of alternative supply and trade policies toward nonmember countries.

- Investments. Regional cooperation and bilateral agreements can attract more FDI by enlarging markets (particularly for "lumpy" investment viable only above a certain size), reducing distortions (depending on policy content) and lowering the marginal cost of production.

- Coordination and collective bargaining power. Regional integration agreements may enable countries to coordinate negotiating positions in international fora, thus raising visibility and possibly increasing bargaining power.

- Management of shared natural resources. Many watersheds, mineral deposits, fisheries, and sensitive natural environments are shared among countries. Thus collaboration among regional partners is essential to ensure sustainable management.

- Management of "regional commons." Effective action to combat infectious diseases, such as HIV/AIDS and malaria, and vulnerabilities arising from climate change depend on collaborative efforts among groups of countries.

- Policy lock-in and commitment mechanism. Regional agreements can provide a "commitment mechanism" for countries' domestic trade and other policy reforms, reducing the likelihood of policy reversals. Such mechanisms apply to political as well as economic reforms.

- Better deal with shocks. Integration agreements provide insurance to members against exogenous shocks (terms of trade shocks, conflict, changes in protectionist policies by trading partners, and impacts from climate change). By shifting economic transactions, integration may shift the source of shocks, and a larger market may provide alternatives to cope with some demand shocks.

- Security. Regional agreements may lower the risk of conflict within the region as a result of improved intraregional confidence and trust, common defense arrangements, and interdependence in key aspects of countries' national development.

Nevertheless regional integration can also generate risks and costs, ranging from trade diversion to loss of cultural values (Box 2).

Box 2. Potential costs of regional integration

• Trade diversion. Displacement of low-cost products from non members by higher cost products from partner countries has been a major problem with several regional integration arrangements. For example, MERCOSUR more than doubled trade among members while reducing extra-regional imports by almost a third, suggesting a net welfare loss (Cernat, 2001).

• Revenue loss. Trade integration agreements can reduce governments' tariff revenues, both directly through tariff cuts and indirectly through shifts away from imports subject to tariffs from nonmembers. The impact depends on the difference between former tariff levels and the regional tariff, as well as on how much new trade is generated from the integration agreement. For example, it is estimated that public revenue losses from eliminating tariffs on EU imports under the Euro-Med agreements will amount to 2.4 per cent of GDP for Tunisia and 2 per cent for Morocco (Alvarez Coque and Sarris, 2003).

• Indirect costs. The freer movement of people and capital across national borders may generate costs (capital flight and losses of skilled human resources for example), depending on a host of factors (including the degree of integration, the soundness of domestic institutions, and the level of income relative to regional partners).

• Erosion of national sovereignty and culture. Regional integration and globalization in general, may reduce the independence of national policymakers and increase the importance of immigrants and foreign ideas. Whether this is a cost or a benefit depends critically on context and values.

The profound changes of the world trading system since the 1980s are reflected in the transition from "shallow" to "deeper" integration. Shallow integration is defined as economic integration based on the removal of barriers to exchange at the border and limited coordination of national policies, whereas deeper integration includes commitments to liberalize the services market, improvements in trade facilitation and the investment climate, financial and labor market reforms and harmonization of standards. Deeper forms of integration are easier and less risky to achieve within a regional context where partners are well known, as opposed to attempting similar agreements on a global basis. The best example of deeper integration is the European Union.

Regional integration is a complex process, often represented as having three dimensions:

1. Hard infrastructure: developing regional transport, energy and telecommunications networks and setting in place the institutional arrangements for their management and maintenance.

2. Soft infrastructure: removing intangible barriers to the free movement of goods, services, capital and labor, and creating the institutional frameworks necessary to integrate markets, for example dismantling trade barriers, harmonizing policies to promote intra-regional trade and investment, creating institutions to manage trans-boundary markets and improving the regional business environment.

3. Regional public goods: establishing common arrangements for managing shared resources like water; financing joint investments in agricultural productivity and climate change adaptation; and managing the cross-border dimensions of major health issues, labor migration and other areas that benefit the region as a whole.

Economic integration typically requires action on three fronts: behind-the-border, at the-border, and between-the-borders. Behind-the-border reforms involve mutual recognition agreements on technical standards and business procedures, regional trade agreements, and logistics and transport facilitation initiatives.

At-the-border reforms liberalize the movement of production factors (capital, labor, intermediate goods and services) and help develop cross-border production networks. Almost all new regional trade agreements include provisions on service liberalization. Financial and monetary cooperation can improve capital mobility and regional attractiveness to FDI. These reforms also enhance the diffusion of knowledge and information, further stimulating development of cross-border production structures and markets.

Finally, between-the-borders reforms are critical to address the underlying causes of the high cost and unpredictability of infrastructure, particularly transport services and power. Inefficient logistical services, over-regulation of the transport sector, oligopolistic behavior among freight forwarders, and informal roadblocks along international corridors sap competitiveness by increasing trade costs and physically throttling trade facilitation.

The literature confirms (Hoekman, 1998; Hoekman and Konan, 2001) that shallow integration may in some instances give rise to trade diversion at least in the short run, and significant welfare gains accrue in the long run only to the extent that deeper forms of regional integration are envisaged. Since deeper forms of integration remove a wider range of distortions between national economies, they tend to yield greater welfare gains than shallow integration.

Geographic proximity facilitates economic integration between countries and deeper forms of integration, in particular, can best be achieved at the regional level.

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1.2 Regional Integration in North Africa

Jacob Kolster, Nono Matondo-Fundani and Emanuele Santi

Regional integration can contribute strongly to economic and social development in North African countries (Tunisia, Morocco, Algeria, Egypt, Libya and Mauritania) by increasing opportunities to achieve economies of scale, diversifying economic production, improving intra-regional and external trade, and improving policies to strengthen competitiveness. Cumulative and indirect benefits from regional integration through deeper integration and reform in North African countries would be substantial.[1]

The diversity of endowments within North Africa represents an important opportunity to further development through integration. Tunisia, Morocco and Egypt have strong private sectors and diversified production bases, including booming services sectors, but have limited financial resources. Libya and Algeria have a surplus of capital and large markets for goods and services, as well as potential employment opportunities for migrants. The opportunities for mutual benefits through cross-border investment and trade between these two groups of countries are evident.

Nevertheless, North African regional integration remains extremely limited. The level of intra-regional trade in North Africa has been the lowest of any region in the world and well below that achieved by other regional communities in Africa. The economic cost of this lack of integration has been calculated at around 2 to 3 percent of GDP (DEPF, 2008).

Security concerns and a lack of political will have historically been key factors limiting regional integration in North Africa. The Algerian-Moroccan border closure since 1994 effectively splits the North Africa region in two geographically separate and difficult-to-link parts, as well as limits trade and investment initiatives between the two directly concerned countries and the transit of goods and services through their borders. Political support for regional integration in North Africa has been sporadic and often inconclusive, as evidenced by the poor track record in implementing various decisions and agreements.

[1] According to the United Natiion Economic Commission for Africa (UNECA), gains from the liberalization of trade in goods alone would approach $350 million in 2015.

One cause and consequence of limited integration is that regional initiatives remain rather fragmented and there is no single institutional architecture uniting the six North African countries. The Arab Maghreb Union (AMU) includes all six countries except Egypt, which belongs to the Common Market for the Eastern and Southern Africa (COMESA). The Community of Sahel-Saharan states (CEN-SAD) includes all the countries except Algeria. AMU and CEN-SAD have developed gradual, long-term programs to achieve full economic integration. However, these programs are poorly reflected in national policies, and little progress has been made in ratifying regional agreements.

By contrast, the six countries have much stronger ties with groupings belonging to other regions. Five countries (excluding Mauritania) have pursued trade integration within the Arab League through the Greater Arab Free Trade Area (GAFTA) and North African countries have made intense efforts to integrate with the European market, initially through the Euro-Mediterranean Partnership (formerly known as the Barcelona process). Despite the benefits of these overlapping trade agreements, they represent an important impediment to trade growth within the region as complex rules of origin arising from each of these agreements have increased transaction costs. In addition, strong ties with the European market have helped to shape the establishment of a European Union export-led industrial structure and diverted North African countries' attention from regional initiatives.

More recently, however, North African countries' ties to Europe may encourage greater cooperation within the region. Egypt, Morocco, and Tunisia have signed agreements under the European Neighborhood Policy that include, among other things, the adoption of international (EU compatible) standards in many areas: e.g. prudential rules for banking and insurance, accounting standards (IFRS), and harmonization and convergence to EU sanitary and phytosanitary standards (SPS). The progressive adoption by individual countries of EU regulations, if extended to all countries in the region, will lead to the harmonization of rules among North African countries based on international standards, which would create increased opportunities for deeper economic integration.

Integration is also being driven by market forces. Financial institutions from within the region are establishing subsidiaries in other North African countries, while foreign companies are increasingly using the North Africa region as a base for further expansion.

The wave of political change in 2011 has complex implications for regional integration. The common experience of achieving more open political systems may strengthen collaboration among countries in economic issues, and governments may recognize that openness and regional integration are the most effective approaches towards furthering development. Alternatively, some countries may adopt more inward-looking economic policies, including protectionism and greater financial controls, to cope with the disruptions of the transition and the rising demands for economic gains by various interest groups. The recent conflict and the reconstruction of Libya could also potentially pose further challenges and uncertainties, yet open up new opportunities for a more integrated and prosperous North Africa.

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1.3 Regional Integration: An Overview and Summary of Key Opportunities

Saoussen Ben Romdhane, Emanuele Santi and William Shaw

Key opportunities for regional integration in North Africa can be identified across six sectors and themes. This section of the publication presents six thematic notes on regional integration in North Africa. Studies have been carried by sector experts in energy, climate change and environment, financial sector, trade facilitation and transport, human development and information and communication technology. Each of these studies points out a number of opportunities and challenges, which are summarized below.

Developing an integrated energy market would help meet rapidly growing electricity demand, more fully exploit the diversity of energy resources within the region, capitalize on the emergence of new energy technologies, and help supply the financial and technical requirements of an efficient, integrated North African energy sector.

Regional integration would enable North African countries to better protect and exploit their shared wealth in natural resources. Common efforts are necessary to protect water resources, which are becoming increasingly scarce and which are particularly vulnerable to climate change. Regional integration could also improve existing arrangements to prevent climate change and preserve the environment through strengthening regional cooperation, reducing barriers to market-based development of renewable energy (particularly wind and solar resources), and enhancing regional level capacity and targeted infrastructure investment for clean energy delivery.

Integration of the regional financial sector could contribute to enhancing competitiveness across countries. Priorities include strengthening financial infrastructure, harmonizing regulatory policies, and removing market impediments to cross-border activities, particularly lifting the exchange controls between North African countries.

Major progress can also be achieved through reducing the formal and informal trade barriers between North African countries. Regional cooperation in trade facilitation can be enhanced by adopting a regional approach to technical assistance. Cross-border commerce could also be supported by improving the condition of the regional road network to highway standards and strengthening port services that are plagued by inefficiencies, bureaucratic delays, and the absence of a well-defined regulatory environment.

Regional cooperation and integration efforts can be very useful in meeting the daunting challenges of addressing youth unemployment, adapting education systems to market demands and creating efficient social safety nets. Reform programs to address these challenges could benefit from regional cooperation to share lessons and experiences in social policy, harmonize norms and standards, and benefit from economies of scale in various areas, including research and the formulation of national qualifications frameworks. Regional integration may be encouraged through cooperation with other regions, for example through efforts to adopt EU-based frameworks and standards and through cooperation agreements with Sub-Saharan African countries to share know-how and lessons.

Finally, improving the regulatory framework for the rapidly-growing ICT sector could enhance competitiveness across the region. North Africa has considerable potential for further growth in the sector, given rapidly-increasing demand for ICT services, the availability of trained personnel, and the presence of multinationals with advanced technology. Regional integration could establish the large market required for firms to achieve efficient scale, support the harmonization of technical standards and rules, and facilitate the exchange of experience among the North African countries.

Part II

INTEGRATION ACROSS NORTH AFRICA

CHALLENGES AND OPPORTUNITIES

2.1 Energy Sector

Hussein Razavi, Emanuele Nzabanita, and Emanuele Santi

Energy systems of North African countries portray two specific features. First, a common feature is that energy consumption and particularly electricity demand has grown at a very high rate, outstripping the supply capacity. Although there is a significant potential to conserve energy through various measures of efficiency and pricing, most of these countries are still short of power generating capacity. It is estimated that these countries need to double their power generating capacity during 2010-2020, which would imply an addition of 45,000 MW to the current installed capacity. Second, a differentiating feature is that North African countries have a diverse resource base, with some dependent on energy imports and others dependent on energy exports.

The above two features – the rapid growth in demand, and the diversity of the supply structure – generate considerable potential for regional energy trade. Moreover, this potential is hugely reinforced by two exceptional opportunities. First, the global consensus about the need to reverse carbon emission trends is boosting support for energy technologies and energy finance, providing a unique opportunity for North African countries to leap frog to advanced technologies. Second, the European Union's (EU) commitment to reducing carbon emissions will require the member states to shift to low-carbon energy supplies in an unprecedented manner. Already, this radical decision has been translated into a strong willingness by the EU members to purchase clean energy from North Africa at exceptionally high prices. The international and the EU initiatives for the reversal of carbon emission trends are expected to change the framework of energy development decisions from a "least-cost" to a "least-carbon" basis. This new approach is expected to depend on a much more extensive system of energy trade and a much more modernized energy network. Integration of the energy systems of North Africa is considered an important component of such network development and modernization. However, the envisioned integration would require significant strengthening of both the physical and the institutional infrastructure in the North Africa region.

The purpose of this note is to present an overall picture of the energy systems of North African countries in order to identify the medium and long term opportunities and challenges in integrating their energy markets. More specifically the note will: (i) describe the impact of the relevant international trends (the climate change agenda and financial crisis); (ii) summarize the emerging trends in the energy sector (gas, power and green energy); (iii) identify the potential for regional energy integration within North Africa and with the neighboring regions, particularly the EU and the rest of Africa; (iv) present a tentative agenda for the development of infrastructure and institutional capacity of North African countries in order to facilitate regional integration; (v) describe the relevant activities of the major development partners; and (vi) outline the potential areas of Bank involvement based on the lessons of experience, the Bank's comparative advantage as well as the comparative advantages of other partners. Finally, the note introduces the framework for a major flagship study on the "Integration of Energy Markets in North Africa" which is aimed at a detailed analysis of potential regional integration projects and the preparation of an action plan for implementation.

I. The Global Context

Global energy demand is expected to grow modestly over the next two decades. While some forecasts of world energy consumption predict enormous growth over the next several decades, the two most highly regarded forecasts—by the International Energy Agency (IEA 2009) and the U.S. Energy Information Administration (EIA 2010)—assume that continuous improvements in energy efficiency will keep global energy consumption growth rates at about 1.5 per cent p.a. over 2010–30. Under this "business as usual" scenario, world energy consumption expands by a total of 35 per cent during the next 20 years. Such a moderate growth should not raise much concern in terms of energy supply capacity.

But even this modest rise in demand may have catastrophic environmental consequences. The increase in carbon dioxide emissions associated with even this modest rise in energy consumption could irreversibly damage the global environment. Worldwide, the energy-related carbon dioxide emissions were about 30 gig tonnes (GT) in 2009. Under the above business as usual growth scenario, emissions would soar to 41 GT by 2030 and 57 GT by 2050. This level of emissions would lead to a concentration of greenhouse gases in the atmosphere which could raise global temperatures by around 6°C above pre-industrial levels, causing irreversible changes in the global climate. To limit the average increase in global temperatures to a maximum of 2°C, which is considered necessary to ensure stability of the global climate, the concentration of greenhouse gases in the atmosphere would have to be stabilized, requiring the energy-related carbon dioxide to be reduced by about 80 percent by 2050. The IEA's Energy Technology Perspectives (2010) finds that achieving this reduction in carbon emissions would require far greater energy efficiency, large-scale use of renewable and nuclear energy, and deployment of carbon capture and storage technologies. It also will require the active participation by developing countries in restraining carbon emissions and supplying alternative energy.

The EU's goals for reducing carbon emissions offer opportunities for North African countries. The European Council (EC) has set the objective of an 80-95 per cent reduction in greenhouse gas emissions by 2050 compared to 1990 levels, which will require improved energy efficiency and the use of low-carbon energy resources. To this end the EU has set a target of 20-20-20 aiming at improving energy efficiency by 20 percent, and increasing the share of renewable energy to 20 percent, by the year 2020. To achieve these targets the EU is expected to invest €80 billion in technology development. This amount can increase to 1 trillion Euros in the next 20 years in order to keep energy flowing while making the switch to low carbon energy. Investments in energy technologies and the financing of energy projects with low carbon emissions provide a unique opportunity for North African countries to leap frog on advanced technologies. In addition, the EU's radical decision to require member states to shift to low carbon energy supplies has increased demand from EU members to purchase clean energy from North Africa at exceptionally high prices. The international and the EU initiatives for the reversal of carbon emission trends are expected to change the framework of energy development decisions from a "least-cost" to a "least-carbon" basis. This new approach is expected to depend on a much more extensive system of energy trade and a much more modernized energy network. Integration of the energy systems of North Africa is considered as an important component of such network development and modernization. However, the envisioned integration would require significant strengthening of both the physical and the institutional infrastructure in the North Africa region.

The international financial crisis has reduced the prices of North Africa's energy exports. While North African countries' strong economic management has limited their economies' downturn during the global recession, the crisis has reduced energy prices and increased indications of over-supply. In particular, lower demand, the expansion in sources of unconventional gas, and the commissioning of some large liquefied natural gas (LNG) projects have created a glut in international gas supplies and reduced gas export revenues to Algeria, Libya and Egypt. However, lower LNG prices also have reversed the advantage previously enjoyed by exporting LNG to the international market versus piped gas to neighboring countries. It is therefore an opportune time to examine the potentials for increasing gas or power exports from energy surplus to energy deficit countries.

The crisis also has constrained financing for energy projects, and thus slowed the expansion of energy production capacities in North African countries. Because of this financial constraint most of the countries in the region are operating under small reserve margins and are therefore unable to export energy to neighboring countries. Paradoxically, the financial crisis has also expanded public expenditures on energy through stimulus packages in OECD countries. The European Economic Recovery Plan (EURP) has earmarked an unprecedented €3.98bn for energy projects; a cornerstone of this allocation is the development of green energy which is likely to have a spill-over effect on the energy programs in North Africa.[2]

II. Overview of Major Energy Trends and Outstanding Issues in North Africa

The demand for energy has increased rapidly across North Africa. Rapid economic growth in the region prior to the global economic crisis triggered a rapid increase in energy demand, particularly electricity consumption, and most countries are short of power generating capacity. It is generally accepted that part of this growing demand may be curbed through more effective energy conservation and load management policies, including tariff adjustments. Nevertheless, it is estimated that these countries need to double their power generating capacity by 2020, requiring an addition of 45,000 MW to the installed capacity. This section summarizes the energy trends in each country from the point of view of potentials and challenges to regional integration.

Table 1. Energy Characteristics of North African Countries

Country	Population (million)	GDP (US$ billions)	Electricity Consumption (TWh)	Installed Capacity (MW)	Gas Reserves (Tcf)
Egypt	81.5	441.2	125.3	23,500	77
Libya	6.3	96.7	29.1	6,196	54
Algeria	34.4	166.5	40.5	8,503	159
Tunisia	10.3	40.3	13.7	3,316	2.8
Morocco	31.6	88.8	23.6	5,292	negligible
Mauritania	3.2	2.8	0.5	150	1.5 to 3.0

Source: World Bank (2010), AUPTDE (2010)

[2] It is noted that until a few years ago the EU did not have a formal energy strategy except that it wished to ensure safe, secure, sustainable and affordable energy for all. Its first formal adoption of an energy strategy was the Energy Action Plan of 2007 which resulted in a large number of new initiatives, legislation and heightened public awareness. In particular it has led to the adoption of the third internal energy market package, the energy and climate change package (in particular the Renewable Energy Directive and the revision of the EU Emission Trading System), the Nuclear Safety Directive and the Strategic Energy Technology Plan. The underlying assumption of the energy policy is that a well functioning, competitive internal energy market is key for the long-term energy and climate objectives pursued by the EU. Creation of such a market is also considered intertwined with further market integration. To accelerate the development of low carbon technologies, the EU has adopted the European Strategic Energy Technology Plan (SET-Plan) to support new technologies particularly in wind, solar, bioenergy, electricity grids, carbon capture and storage, and nuclear fission.

Egypt's 4.6 percent annual growth in energy demand over the last two decades has been met by increased use of fossil fuels. Egypt exported substantial amounts of oil through the 1980s and 1990s, but oil production has declined since the country's 1996 peak of close to 935,000 barrels per day (bbl/d) to current levels of about 685,000 bbl/d. By contrast, gas reserves have quadrupled since the early 1990s, and the 2009 estimate of 77 Tcf in 2009 is the third highest in Africa after Nigeria (185 Tcf) and Algeria (159 Tcf). Natural gas has thus substituted for oil both in domestic use and in export of energy. In 2009, Egypt produced 60 billion cubic meter (bcm) of natural gas, consumed 42 bcm, and exported 18.3 bcm, around 70 percent of which was exported in the form of LNG and the remaining 30 percent via pipelines to Jordan, Syria, and Lebanon through the Arab Gas Pipeline, with further planned connections to Turkey and Europe, and to Israel through the Arish-Ashkelon gas pipeline (completed in 2008).

Egypt's installed capacity of 24,000 MW is dependent on gas fired plants. The percentage of the installed hydro power in total generation is gradually declining, as all major hydropower sites have already been developed and new generation plants are mainly gas fired. While Egypt needs to expand its power supply capacity substantially, serious questions confront the volume and pricing of future gas supplies, particularly given the tradeoffs involved in allocating gas to power versus other uses, and to domestic consumption versus exports. Thus the present energy strategy (the resolution adopted by supreme council on energy in 2007), which aims at increasing the share of renewable energy to 20 percent of the energy mix by 2020, largely through scaling-up of wind power as well as solar is still very costly and the hydro potential is largely utilized. The share of wind power is expected to reach 12 percent which translates into a wind power capacity of about 7200 MW by 2020. The solar component will remain limited to 100MW of CSP and 1 MW of PV power.

The energy sector plays a major role in Libya's economy. Prior to the conflict, oil and gas comprised about 70 percent of the country's GDP and 95 percent of its export earnings. Oil reserves were estimated at 44 billion barrels, the largest in Africa (compared with 36 billion barrels in Nigeria and 12 billion barrels in Algeria). The country's oil production (crude plus liquids) was approximately 1.88 million barrels per day (bbl/d) in 2009. Oil production had peaked at over 3 million barrel/day in late 1990s but has since then declined continuously. Pre-conflict domestic oil consumption was about 280,000 barrels/day leaving about 1.6 million barrels/day for exports. Libya produced about 15 bcm of gas in 2009, while consuming just under 5bcm. Natural gas exports to Europe have grown considerably over the past five years through both the Western Libyan Gas Project (WLGP) and the 370-mile "Greenstream" underwater natural gas pipeline, which together transported about 9.2 bcm (some 0.8 bcm is exported to Europe in the form of LNG). The conflict in Libya has significantly altered Libya's role as a key exporter, at least in the near term. At the time of writing, oil production and export were near halted due to departure of the oil companies from the country. The recovery of production to the pre-conflict level will depend on a number of factors ranging from possible damage to the oil and gas infrastructure to possible renegotiation of exploration contracts.

Prior to the Libyan conflict, the General Electricity Company of Libya (GECOL) had a monopoly over electricity generation, transmission, and distribution. GECOL succeeded in connecting almost 100% of the population by 2005, and it appears that customers used to receive electricity at an acceptable level of continuity and quality of supply. GECOL’s future vision was focused on reinforcing infrastructure through the use of modern technologies, and through new developments related to RES. A new authority REAOL (Renewable Energy Authority of Libya) was founded in 2007 with a mission to foster the penetration of RES generation, mainly wind and solar, in the country. REAOL was under the auspices of the Ministry of Energy, Water and Gas. Prior to the conflict GECOL was building several new power plants owing to the rapid growth in power demand.

The energy sector is of vital importance to the Algerian economy. Oil and gas production accounted for 60 percent of the country’s budget revenues, nearly 30 percent of its GDP, and over 97 percent of its export earnings in 2008. The development of the sector dates back to the late 1950s, with the discovery of two giant associated oil and gas fields at Hassi-Messaoud and Hassi R’Mel.[3] Though the early focus was on production of crude oil, natural gas production started in 1961 and Algeria became the world’s first LNG producer in 1964. The level of oil production in 2009 stood at a total of 2.13 million barrels per day (bbl/d). Domestic oil consumption reached about 15 percent of total production, or 325,000 bbl/d. Algeria produced 81 bcm of natural gas in 2009, of which 66 percent was exported (two-thirds through pipelines connections to Europe, one third through LNG) and 34 percent was consumed domestically.

Power supply almost doubled in the last decade amidst a restructuring of the sector. A 2002 law provided for the unbundling and liberalization of the power sector. Subsequently Sonelgaz was restructured into a holding company with 7 companies (2 generating companies; one Transmission Company; and 4 distribution companies). The national oil company - Sonatrach has entered the IPP business in partnership with Sonelgaz: the two companies established a 51/49 joint venture called Algerian Energy Company (AEC) in May 2001, mostly to invest in power generation and sea water desalination.

[3] According to The Oil and Gas Journal (OGJ), Algeria held an estimated 12.2 billion barrels of proven oil reserves as of January 2010, the third largest in Africa (behind Libya and Nigeria), and 159 trillion cubic feet (Tcf) of proven natural gas reserves - the tenth-largest natural gas reserves in the world, and the second largest in Africa after Nigeria. Algeria's largest gas field is Hassi R'Mel, discovered in 1956 and holding proven reserves of about 85 Tcf, accounting for about half of Algeria's total dry natural gas production.

Renewable energy is insignificant. Over 90% of power generation is based on natural gas (the rest is based on oil and hydro). Plans for an expansion of about 8000 MW by 2015 depend heavily on gas-fired combined cycle technology. However, the country has substantial renewable energy resources, and the government has set a target of a 5 percent share for renewable energy by 2017, and 20 percent share by 2030.

Tunisia has limited energy resources and depends on imports of natural gas. Oil reserves and production are very small, and its gas reserves are currently estimated at 2.8 Tcf. Gas productions stood at 4.25 bcm in 2009 while gas consumption amounted to 5.5 bcm (70% is dedicated to power); the gap of 1.25 bcm was imported from Algeria. Electricity generation is 99 percent dependent on natural gas, with hydro and wind plants accounting for only 1 percent.[4] The planned expansion of about 3200 MW in generating capacity (almost equal to current capacity) over the next five years would rely on gas for 90 percent of power generation. The government's concern over the power sector's dependence on gas can be seen in its considering the import of coal for one of the contemplated plants, while nuclear is also being studied for the longer term. The government also is taking steps to promote renewable energy under the Tunisia Solar Plan (launched in 2009), which has identified 40 RE projects (solar, wind, biomass, etc.) for a total investment of 2 billion euros. The government also is taking steps to encourage private sector participation in the power sector (two IPPs have been built since a 1996 decree), although the state-owned Société Tunisienne de l'Electricité et du Gaz (STEG) still maintains strong control over distribution.

Morocco depends on imports for most of its energy needs. Morocco's domestic supply of oil and gas is negligible. In addition to oil and petroleum products, Morocco imports coal (for power and industry) and gas from Algeria (for power). Electricity supply comes from imported coal (43%), transmission from Spain (18%), fuel oil (15%), imported natural gas (12%), hydro power (10%), and wind (2%). To meet growing electricity demand, Morocco plans to invest more than $20 billion in the next 10 years to increase the installed capacity by about 6750 MW (installed capacity was 6,100 MW at the end of 2009).[5] The program envisions a radical increase in renewables, so that by 2020, wind, solar and hydro would each account for 14% of power supply, with the remaining sources oil (14%), gas (11%), nuclear (7%), and coal (26%). The $10 billion solar program is based on construction of a 500 MW CSP plant by 2015 and another 2000 MW of CSP during 2015-2020. This ambitious plan is in line with the new energy strategy that was declared in March 2009 and

[4] Power supply capacity of 3313 MW in 2008 consisted of 1307 from gas turbines, 1090 from steam turbines, 835 from combined cycle, 62 from hydro, and 19 from wind turbines.

[5] The installed capacity is composed of : 914 MW gas turbine; 600 MW steam turbine; 1785 MW coal plant; 1265 MW hydro power; 465 MW pumped storage; 632 MW combined cycle; 250 MW wind turbine; 20 MW solar plant; and 175 MW diesel plant.

aims at: (i) diversifying the energy mix around reliable and competitive energy technologies, in order to reduce the share of oil to 40% by 2030; (ii) developing the national renewable energy potential, with the objectives of increasing the contribution of renewable to 10-15% of primary energy demand by 2012; (iii) making energy efficiency improvements a national priority; (iv) developing indigenous energy resources by intensifying hydrocarbon exploration activities and developing conventional and non-conventional oil sources; and (v) integrating into the regional energy market, through enhanced cooperation and trade with both other Maghreb countries and the EU countries.

Mauritania has substantial oil and gas resources, but production has been limited. Oil production started in 2006 in an offshore field, but fell from 30,600 barrels/day in 2006 to 10,500 barrels/day in 2008. The current production does not meet the domestic consumption of oil (which was around 21,000 barrels/day in 2008). Gas reserves are estimated at 1 to 3 Tcf but the discovered gas fields are not yet developed. However, there are plans to produce and use gas in the power sector and even to export of gas/power to Senegal.

Electricity supply system is small and fragmented into several isolated grids supplied mostly by oil fired generating sets. Total installed generating capacity was about 150 MW in 2009, including 90 MW owned by the Société Mauritanienne d'électricité (SOMELEC), the state owned national power utility; 30 MW owned by auto-producers (such as the iron ore company SNIM, the Refinery SOMIR, etc.) and 30 MW of capacity allocated for Mauritania from the Manantali Hydropower project and Aggriko Diesel plants in Mali, owned jointly by Mali, Senegal and Mauritania and operated by SOGEM and OMVS. Electricity supply stood at 475 GWh in 2009, including 71% from SOMELEC, 23% from imports and 5% from internal purchases. Although the amount of power supply is small, the growth rate has been high (7.5 percent p.a.), resulting in the doubling of the net supply between 1999 and 2009. The fuel mix of power supply has also changed dramatically in the last 6 years, with a decline in the share of hydro power from Manantali (45% in 2003 versus 21% in 2009), while the share of oil (heavy fuel oil and diesel oil) fired power generation has risen.

Electricity demand is forecast to grow at 7 percent p. a. during the next decade. The government expects that starting in 2015 the country will receive an additional supply from regional hydropower projects Felou (MW) and Gouina (MW), now under construction in the Senegal River basin downstream of Manantali. The government is also planning to develop an offshore gas field to fuel power production of 300 MW to 700 MW in a plant to be constructed near Nouakchott. The power produced could meet the incremental demand in the major load center and could also be exported to Senegal and Mali using the OMVS grid to complement the hydro power supplies from OMVS. The expected commissioning of such plants is envisaged to be around 2018 to 2020.

III. Dimensions and Potentials of Regional Integration in North Africa

Regional energy integration has been a natural response to increasing demand. One of the most significant bottlenecks in developing new power generating capacity is the supply of the required fuel. In the past the region depended largely on oil for power generation. This dependence was substantially reduced in the 1990s as gas became a desirable substitute, owing to its superior economic and environmental attributes. In recent years, however, concern over gas availability has triggered a search for sources of imported gas and/or electricity, which has in turn led to various attempts to construct cross-border infrastructure facilities. Besides enabling energy imports, interconnected networks – particularly power grids – impart a series of additional benefits, such as peak sharing, improved system reliability, reduced reserve margin, reactive power support and economy energy exchanges, taking advantage of daily and seasonal demand diversity and generation capacity dispatch management.

Regional integration is further encouraged by the very diverse resource bases of North African countries. Algeria, Egypt and Libya have substantial oil and gas reserves, Tunisia and Morocco are substantial energy importers and Mauritania has some reserves but production doesn't meet domestic consumption needs. These sharp differences among countries offer the potential for considerable gains from trade.

Regional integration is however limited in North Africa. Exports of natural gas go largely to Europe, and despite some regional interconnectivity most plans for cross-border power transmission envision connections to Europe and/or the Arab world. Discussions of the harmonization of regulations and improvements in the regulatory framework are largely undertaken in the context of integration with the European Union, rather than regional partners.

The region's gas exports are primarily destined to extra-regional markets. Algeria, Egypt and Libya are the region's natural gas exporters, while Tunisia and Morocco are net importers (Table 2). Gas exported through the Mellitah pipeline on Libya's west coast to Gela in Sicily was entirely destined to Italy, while Algeria's pipelines (Transmed pipeline, also called Enrico Mattei through Tunisia, and the Maghreb-Europe Gas pipeline, also called Pedro Duran Farell, through Morocco) sends only 5.5 percent of their gas to Morocco and Tunisia. Egypt intends to export gas through the Arab Gas Pipeline to the Mashreq countries and ultimately European markets, although construction has been delayed owing to uncertainty about the availability of gas from Egypt. The three countries also export LNG to Europe, the United States, and Asia.

Table 2. Gas Reserves, Production and Exports

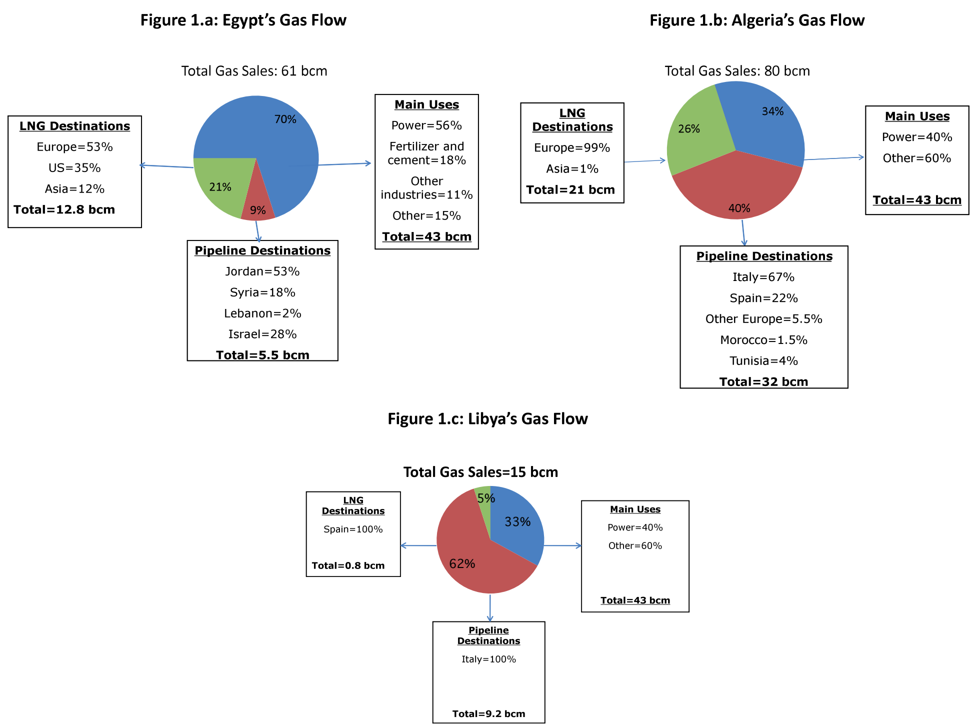
Country	Gas Reserves (Tcf)	Gas Production (bcm)	Gas Consumption (bcm)	Gas Export (bcm)	Notes
Egypt	77	63	43	18	Exports comprise 12 bcm of LNG and 6 bcm of pipeline
Libya	54	15	5	10	Exports primarily through a pipeline to Italy
Algeria	159	81	27	53	Exports include 21 bcm of LNG and 32 bcm of pipeline
Tunisia	2.8	4.25	5.5	-1.25	Imported from Algeria
Morocco	negligible	negligible	0.5	-0.5	Imported from Algeria
Mauritania	1.5 to 3.0	0	0	0	-

Source: BP Statistical Review (2010), Oil and Gas Journal. January

Major projects under construction or planned also focus on the European market. These include: (i) the Medgaz Pipeline from Algeria to Almeria, Spain, with an eventual extension to France, which is close to completion; (ii) the Galsi pipeline running from Algeria to Piombino, Italy, which is expected to be completed by 2012; and (iii) the Transaharan Pipeline from Warri, Nigeria to Algeria (via Niger) that would utilize the Medgaz and existing Transmed pipelines to carry Nigerian natural gas to the European markets, whose 2,800 miles and estimated cost of $12 billion, along with sabotage risks, may deter implementation. Egypt is also expected to increase the volume of gas exports through the current AGP system to Jordan, Syria and Lebanon. A recent agreement between the Egyptian Ministry of Petroleum and the Italian gas company (Eni) provides open access to Eni to transport gas through the AGP system. Eni envisages extension of the AGP to other countries as well as gas swaps through the AGP system – the two features which may help in developing a Mediterranean gas hub in Egypt. These features would also facilitate institutional and infrastructure developments between Egypt and other North African countries.

Regional power interconnections are developed rather well but actual electricity exchanges are limited. Transmission lines to connect power among Algeria, Tunisia and Morocco were constructed in the 1990s and 2000s. Libya and Tunisia are interconnected by two transmission lines, completed in 2003, which are currently out of operation (see figure 2). Libya is also interconnected with Egypt through a 220 kV transmission line, which prior to the conflict was being upgraded to 400 kV. Nevertheless, regional countries rely more on Europe for power connections. Algeria, Tunisia and Morocco were synchronized with the European Union in 1997 when a double circuit 400 kV interconnection was completed between Spain and Morocco. Morocco currently imports about 20% of its electricity needs from Spain. Egypt, which accounts for more than 50 percent of North Africa's power capacity, is a major participant in the Arab Power System, which now includes Libya.[6] Despite the existing interconnection capacity, electricity trade between Egypt and its neighbors has been limited to rather small amounts, although the interconnection capacity is large enough that Egypt could sell more electricity if financially motivated.

Figure 1. Flow of Gas from and within North Africa

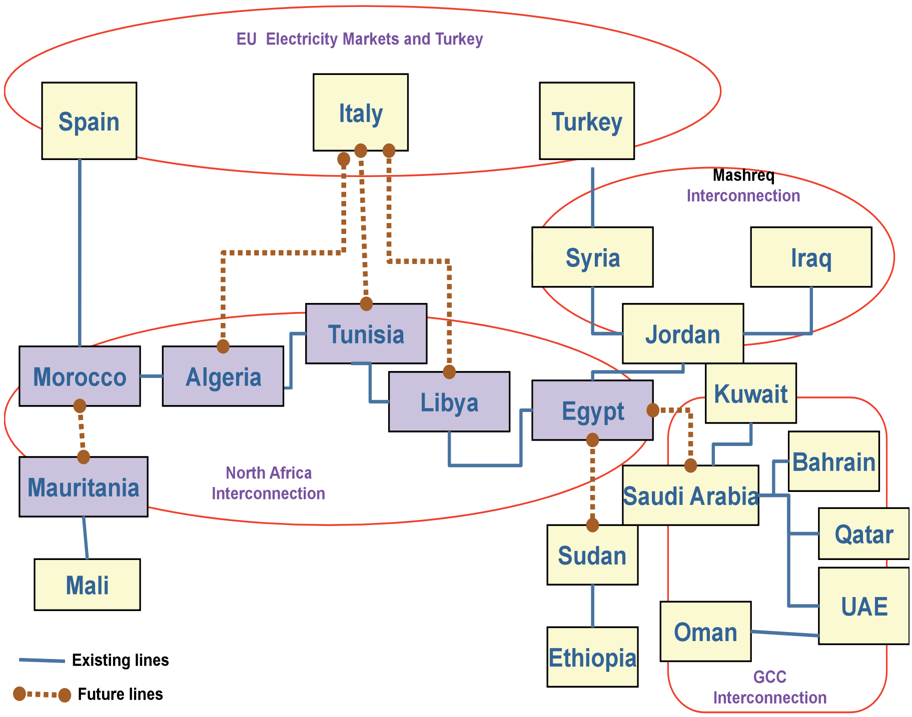


Source: BP Statistical Review (2010), Oil and Gas Journal. January

Mauritania has a small power system and is not currently interconnected with other countries in North Africa. Mauritania is in need of regional cooperation in the energy sector. The country is a member of Comité Maghrébin de l'Electricité (COMELEC), an organization for promoting electricity trade and exchanges among its members (Morocco, Algeria, Tunisia, Mauritania and Libya) and with Europe and is hoping to develop a power interconnection with Morocco.

[6] The Arab Power System was initiated in 1988 by a five-country agreement between Jordan, Syria, Egypt, Turkey and Iraq, and subsequently expanded to include Lebanon, Libya, and Palestine.

Figure 2. North Africa Energy Links



Source: Authors.

However, Mauritania's power trade has been already established with Mali and Senegal. Mauritania has been a beneficiary of the Manantali hydropower project which is located in Mali, and owned and operated jointly by the governments of Mali, Senegal and Mauritania.[7] There are also two other hydro power projects under construction on Senegal River. The Felou hydropower project with a capacity of 60 MW is under construction about 200 km downstream of Manantali which is expected to complete by 2013. The Gouina hydro power project is further upstream of Felou and will have an installed capacity of 69 MW and is also planned for commissioning in 2014.

[7] The project with 200 MW capacity (was completed in 2003 at the cost of around $243 million which was shared by Mali: 35.3 percent, Mauritania 22.6 percent and Senegal 42.1 percent. The power output was agreed to be allocated as follows: Mali 52 percent, Mauritania 15 percent, and Senegal 33 percent. Organisation pour la mise en valeur du fleuve Sénégal (OMVS) was the regional entity created to own and operate the facilities in the Senegal River basin by the three countries. The project included about 1,300 km of 225 kV lines to transmit power to key load centers in Mali, Senegal and Mauritania and interconnecting the grids in the three countries. The transmission system includes 900 km of 225 kV line from the Manantali hydro power plant in Mali to Nouakchott and a 186 km long 90 kV spur from this line from Matam to Boghe via Kaedi. Four towns—Nouakchott, Rosso, Boghe and Kaedi -- are thus interconnected to the OMVS grid which connects the systems of Mali, Senegal and Mauritania.

While the future lies with Europe, North Africa's immediate plans for expanding energy trade include several intra-regional projects:

- The Egypt-Libya interconnection which is presently composed of a 220 kV double circuit, 163 km long, linking Tobruk S/S (Libya) and Saloum S/S (Egypt), commissioned in 1998. The interconnection is considered for reinforcement a new 500 kV line at the Egyptian side connection Marsat-Matrouh to Tobrouk with transformation to 400 kV in the Tobrouk s/s. The commissioning was envisaged for 2015. The economic analysis of the project has been studied by the MEDRING and the ELTAM studies.

- The Libya-Tunisia interconnection which is already in place with two lines: a double circuit 225 kV line, 380 km, between the substations of Mednine (Tunisia) and Abou Kammash (Libya) and a single 225 kV circuit km, between Tataouine (Tunisia) and El Rowis (Libya). The construction of the lines was completed in 2003, but at present they are still out of operation. A first attempt at synchronization between Tunisia and Libya was tried and failed in November 2005. A new trial was carried out in April 2010 and indicates that the interconnection was feasible. However, both projects are at risk further to the Libyan conflict.

- The Tunisia-Algeria interconnection presently consists of 4 lines: (i) Tajerouine-El Aouinet 90 kV; (ii) Fernana-El Kala 90 kV; (iii) Tajerouine-El Aouinet 225 kV; and (iii) Metlaoui-Djebel Onk 150 kV. A fifth 400 kV line (Jendouba-El Hadjar) was completed at the end of 2005 and initially operated at 220 kV. This is expected to be operational at full capacity soon.

- The Algeria-Morocco interconnection presently includes 2 single circuits with 220 kV lines. The total capacity is about 240 MW. A new 400 kV double circuit line is being completed. The first circuit was commissioned in 2006. The second circuit will be commissioned in the near future.

- North Africa to Europe. The main interconnection is through the Morocco-Spain network which consists of two lines: a 400 kV commissioned in August 1997; and a 400 kV commissioned in June 2006. Morocco is considering a third line with Spain which would add another 1000 MW. In addition there are several proposals and feasibility studies for lines from: (i) Algeria to Spain through submarine cable of about 240 km with a capacity of 2000 MW; (ii) Algeria to Italy through a 500 - l000 MW, 400/500 kV DC; (iii) Libya to Italy through a 520 km, 1000 MW and 500 kV DC submarine cable; and (iv)Tunisia to Italy through a 200 km, 400 kV HVDC link with a transfer capacity of approximately 400 MW in a first stage which could be expanded to 1000 MW at a later stage.

The above projects are included in the tentative integration agenda. However, the economic attractiveness of these projects varies widely as indicated in Table 3.

Table 3. Benefit-Cost Ratio of Interconnection Projects

Interconnection	Project	Annual Benefit (US$ million)	Annualized cost (US$ million)	Benefit-Cost ratio
Egypt-Libya	500 kV single circuit	12.4	6.5	1.93
Libya-Tunisia	400 kV single circuit	4.9	3.0	1.63
Tunisia-Algeria	400 kV single circuit	9.5	1.0	9.72
Algeria-Morocco	400 kV single circuit	10.0	3.0	3.33
Morocco-Spain	Addition AC submarine cable (400kV)	7.2	7.7	0.94
Algeria-Spain	DC submarine cable	90.0	46.5	1.93
Algeria-Italy	DC submarine cable	26.2	35.6	0.74
Tunisia-Italy	DC submarine cable	19.8	33.2	0.6
Libya-Italy	DC submarine cable	55.3	46.5	1.19

Source: MEDRING (2009)

Regional integration efforts are intimately related to the development of renewable energy (RE). First, most RE sites (wind farms and solar fields) are far from the power grids and would require dedicated transmission lines to evacuate power to the grid; this affects the overall transmission capacity and the possibility of electricity trade. Second, RE power supply is expected to grow substantially and provide a source of electricity export. For example, Egypt alone is planning to add more than 7000 MW of wind energy over the next 10 years. Third, regional integration of power networks results in larger and more diversified power generation capacity than in isolated national markets, and thereby provides a better opportunity for the development of RE and possibly stronger commercial incentives for the development of a local industry in the manufacturing of the RE equipment. Fourth, there is a substantial international financial support for RE development which public and private entities could access to expand RE generating capacity while strengthening cross-border interconnections that offer synergy between RE and regional integration.

Projects under construction to produce renewable energy are limited. Presently, three countries – Morocco, Algeria and Egypt have each a 20 MW CSP plant under construction. However, these countries, as well as Libya, have much larger CSP projects under preparation.

But still the planned capacities are in the ranges of few hundred MW due to the high investment costs.

The Mediterranean Solar Plan (MSP) envisions a huge expansion of solar power capacity. The MSP, developed by the Union for the Mediterranean, envisions the construction of some 20,000 MW of solar capacity in North Africa by 2020 and its integration into the grid by building new transnational and trans-Mediterranean interconnections, which could become the basis for a Euro-Mediterranean Super grid. This would also enable creation of a regional renewable electricity market with a regional legal framework, and rules and mechanisms for trade. The roadmap foresees three phases: Phase 1: 2009 – 2012: when exports will be initiated through the existing Morocco to Spain electrical interconnection; Phase 2: 2013 – 2016: when additional trans-Mediterranean grid interconnections between North Africa and Europe are built; Phase 3: 2017 – 2020: when a real Euro-Mediterranean market is created; and Phase 4: 2021 onwards: when expansion of the system will become market driven and will not require additional public support.

The MSP will also boost North African economic development through raising export revenues, increasing domestic availability of electricity, reinforcing the grid infrastructure and encouraging a new industry in the manufacturing of solar components. Higher taxes, new jobs and increased demand will benefit the arid, uncultivated, and relatively poor regions where solar plants are often located. Based on the current industry practices MEDLEC estimates that every 100 MW installed capacity will provide 400 man/year equivalent manufacturing jobs, 600 in construction and installation, and 60 in operations and maintenance. If 20 GW of solar thermal power new capacity is built in the Northern African countries, a total of 235,280 man/year jobs could be created by 2020: 80,000 in manufacturing (40,000 on site and 40,000 in Europe), 120,000 in construction and 35,280 in operations and maintenance. Thus the MSP, as well as other initiatives – such as the Euro-Mediterranean Partnership Program (EMP), and the 2003 Protocol for the integration of electricity markets in Algeria, Morocco and Tunisia – envision an expanded and efficient North African energy market.

So far, however, this vision of an integrated market is far from reality. The regional integration of energy systems is one of the few areas that have consistently received political support from all the countries in North Africa, as witnessed by the regional power interconnections described above. However, an effective regional market will require substantial investment in cross-border infrastructure, harmonization of technical and market rules and regulations, and transparent and competitive energy trade practices. To date, the interconnection capacity among North African countries remains rather small and not well utilized. The barriers to the integration of the energy markets include some strong institutional constraints, e.g., the lack of a harmonized and coherent legislative framework, disagreement on the sharing of the benefits between importing and transit countries, and more generally the absence of a structure allowing for efficient cooperation. Moreover, the complexities of formulating multi-country infrastructure projects and the influence and impact of extra-regional opportunities have made it impossible to agree on an action plan to achieve an integrated market.

IV. Integration with Africa and the rest-of-the-world (Other Geographical Dimensions)

The EU is a potential buyer of clean energy from North Africa. Currently the EU only imports 12 percent of its electricity demand, mostly from former Soviet Union states. While electricity demand is expected to slow to below 1 percent for the next two decades, 59 percent of installed power generation capacity is dependent on fossil fuels (3 percent oil, 24 percent gas and 32 percent coal); only 10 percent of the EU's electricity is generated from hydropower and 4 percent from wind power. The EU de-carbonization policy will require the retirement of many old plants reliant on fossil fuels, greatly boosting the demand for clean energy. In addition, the overall annual system peak occurs in January while monthly peak demands are lowest in summer, reinforcing the value of interconnecting with North Africa where peak demand occurs in the summer.[8]

The EU's energy reform program has made the region an attractive market for energy exports. The program was designed to create a single integrated competitive power market with numerous buyers and sellers and traders and power exchanges participating, and third party access to transmission, transparent transmission tariffs and transit charge regimes and reliable regulatory oversight on cross border transactions – all of which other countries wishing to export power to the EU would conceivably adopt. This process has made the EU an excellent export destination with attractive electricity prices, an open, competitive market structure with third party access, multiple market participants and synchronous network operation. The EU transmission network is highly integrated. Though developed with a national focus, it has interconnections among nations that allow for significant exchange of power across national borders and across synchronized blocks. Cross border transmission capacity is viewed not only as improving dispatch efficiency and system security, but also as an essential element to enable competition in the internal market.

[8] It is estimated that generation capacity additions of 673 GW during 2010-2030 would be needed both to replace retiring units and to meet incremental demand. The investment requirements are assessed at $1.5 trillion for generation and $800 billion for transmission and distribution (IEA, 2010, World Energy Outlook).

The EU's reform program, which has encouraged more integrated dispatch based on economic grounds across larger and larger regions, can serve as a model for North Africa. Several reform measures have been undertaken in the EU through various directives with the objective of promoting competition in the internal electricity market and enabling cross-border transactions. The first package of directives, issued in 1996, enabled the largest consumers to choose their suppliers and also provided for open access. A second package of directives were issued in 2003 that required a step-wise opening of the retail market with the target of full opening by July 2007. Still, there was a view that electricity markets largely remained national in scope and had high levels of market concentration. This led to issue of the third package of directives in June 2009 which aimed at full retail market liberalization and a level of effective unbundling that would promote development of cross border transfer capacity and cross-border competition.

Gas and power transactions between North and Sub-Saharan Africa are limited. The interconnection of the power systems of Egypt, Sudan and Ethiopia are being discussed under the Nile Basin Initiative.[9] The prospects for interconnection with Egypt had been seen as limited, as Egypt was a surplus country and the Sudan and Ethiopia had very limited implementation capacity. However, Egypt's ability to absorb imported power has increased and the interconnection will serve Egypt's vision of becoming an energy hub; Ethiopia has recently commissioned large hydropower projects (Gilgel Gibe II—420 MW, Tekeze—300 MW, and Tana Beles—460 MW) and will have surplus power to export; and Sudan also has significant prospects for electricity trade despite its currently small power system (only 1235 MW of installed generating capacity), owing to its location (sharing borders with nine countries), its energy endowments in terms of oil and hydropower potential, and the complementary nature of the adjoining power systems especially those of Ethiopia and Egypt. The scoping study undertaken by ESMAP in 2004[10] identified hydropower generation in Ethiopia as an important element of future power trade in Eastern Nile area. The study also concluded that the interconnection could be implemented with a multi-pole (tapping in Sudan) HVDC link from Ethiopia to Aswan/Egypt and that there is an opportunity for power supply from Sudan to Egypt via a HVDC link if the potential large scale hydropower project along the Main Nile in northern Sudan could be developed. Several major hydropower projects (such as Karadobi, Mendaya, Border and Dal) are being studied under the program for facilitating energy trade among Ethiopia, Sudan, Kenya and Egypt. Further, countries belonging to the East African Community[11] are promoting the East African Power Pool, which will be greatly facilitated by

[9] This is a partnership among Burundi, Democratic Republic of Congo, Egypt, Ethiopia, Kenya, Rwanda, Sudan, Tanzania and Uganda with Eritrea as an observer, which seeks to develop the river in a cooperative manner, share the socioeconomic benefits equitably and promote regional peace and security.
[10] Opportunities for Power Trade in the Nile Basin, Final Scoping Study.
[11] These countries are: Burundi, DRC, Egypt, Ethiopia, Kenya, Rwanda and Sudan.

the interconnections and studies pursued under the Eastern Nile Subsidiary Action Program. Finally, Mauritania has been a beneficiary of the Manantali hydropower project which is located in Mali, and owned and operated jointly by the governments of Mali, Senegal and Mauritania (see above).

The Mashreq region (Jordan, Syria, Lebanon and Iraq) is considered as both a destination and a transit corridor for energy exports from North Africa. Presently, Egypt is the main connecting point and the main exporter of both gas and electricity to the Mashreq region. The Mashreq Interconnection was initiated in 1988 by a five-country agreement including Egypt, Iraq, Jordan, Syria, and Turkey. Each country undertook to upgrade its electricity system to a minimum standard. Subsequently, the agreement was extended to eight countries with the addition of Lebanon, Libya, and Palestine. The synchronization of the Turkish transmission system to the European grid is expected to be completed in 2011. If successful, efforts to develop and implement programs for the synchronization of the Mashreq electricity network with the Turkish and European networks are likely to be intensified, which would open up another avenue for increased electricity exports from North Africa. The exports from North Africa would be initially destined to Mashreq countries and Turkey, and eventually destined to Europe.

The Gulf Cooperation Council (GCC) region is struggling to install sufficient capacity to meet the significant growth in electricity demand. Despite their abundant resource base and financial capacity these countries face similar challenges of high electricity demand growth, heavily subsidized electricity and gas prices, and over-use of gas supply for export-oriented projects such as fertilizer, petrochemicals and LNG. Kuwait, Saudi Arabia, Bahrain, Qatar, United Arab Emirates (UAE) and Oman have almost completed the interconnections required for the exchange of power among them, but with limited capacity (up to 600 MW). Thus any major inflow of electricity would have to come from outside the region. Saudi Arabia and Egypt have been preparing an interconnection of about 3000 MW in two phases. The first phase which will provide 1500 MW is scheduled for completion in 2015.

V. Role and Constraints of RECs in Regional Integration

North African countries are members of several associations which pursue regional energy integration. Since 1990 the Arab Maghreb Union (UMA) has set up specialist energy committees to study electricity cooperation and development of renewable energy. Maghreb countries also cooperate under the Framework of Comité Maghrébin de l'Electricité (COMELEC), which plays an important role in strengthening the integrated electricity network of Maghreb countries while maintaining close ties with other institutions such as EUROELECTRIC and the Union of Arab Electric

Utilities. The Arab League, in which all North African countries are represented, has established an energy directorate which pursues the development of a Pan-Arab electricity network. Although there are no coordinating mechanisms among these associations they have pursued a similar agenda which normally emerges from the needs of the member countries. The agenda has in the past focused on the development of physical infrastructure but has recently focused on institution and capacity building based on the understanding that regional integration can result in actual energy exchange only when the regulatory and contractual arrangements are properly designed and implemented. There is no strong track record of energy integration through these institutions. However, COMELEC has taken a higher profile in recent years. This follows the agreements reached at the Euro-Mediterranean Ministerial meeting in 2003, when the European Commission and the Energy Ministers of Morocco, Algeria and Tunisia signed a protocol aimed at developing a regional electricity market that would be progressively integrated into the EU electricity market. The protocol was then followed by formation of several mechanisms including Forum of Electricity Rules; Expert Group; Permanent High Level Group; and the Ministerial Council. After several years of background work and discussion the Ministerial Council was able to meet for the first time in Algiers on 20 June 2010 and agreed to the creation of non-discriminatory and transparent access to the transmission system. It was then agreed that the countries must work together for the improvement and harmonization of market rules for electricity, access to the network and operating systems as well other requirements of cross-border electricity trade. The ministers from Libya and Mauritania who had participated as observers were asked to pursue the same arrangements in their own countries. Finally, the ministers adopted an action plan that aims at:

- Harmonizing legal frameworks for the gradual integration of electricity markets of Algeria, Morocco and Tunisia with the European Union;

- Ensuring the development of open electricity markets through restructuring the electricity sector to a market oriented system;

- Facilitating electricity trade through harmonization of tariffs and promotion of the required infrastructure; and

- Encouraging the development of renewables in the context of sustainable development in the Maghreb region

The EU is managing a cooperative process to promote ties between the North Africa and the EU, as well as regional integration. The Union for the Mediterranean, launched in

2008, includes all 27 EU members and 16 partners across the Southern Mediterranean and the Middle East.[12] The Union for the Mediterranean offers more balanced governance than previous arrangements (e.g. presidency co-chaired by an EU Member State and a partner of the Southern Mediterranean and the Middle East), increased visibility to its citizens and a commitment to tangible, regional and transnational projects. The Union for the Mediterranean is focusing on security of energy supply, through better interconnections and increased regional integration, energy industry competitiveness, and sustainable energy development. Six priority projects, one of which is the MSP, have been identified.

The Euro-Mediterranean Energy Market Integration Project (MED-EMIP) provides a platform for energy policy dialogue. It promotes energy sector reform in the Mediterranean Countries, with a shift towards sustainable and clean energy, and towards achieving consistency, harmonization and convergence of their national energy policies and institutional and legislative frameworks, and stimulates technology transfer and market development. It supports the development of interconnections between Mediterranean Partners, and between them and the EU, drawing on the experience of Trans-European Energy Networks. Also a new emphasis is placed on completing the Mediterranean electricity and gas rings which led to preparing an update of the 2000 Mediterranean Electric Ring (MEDRING) study, which provides a rather comprehensive vision of an integrated loop among the countries of the Mediterranean Basin. It envisions linking electric power grids from Spain to Morocco through the remaining Maghreb (North African and Western Arab) countries, on to Egypt and the Mashreq, (Eastern Arab) countries, and from there up to Turkey. From Turkey the Ring would then link back into the European grid via Greece or through the newly interconnected Eastern European country grids. This is obviously a long-term vision, which each sub-region can use as a framework in developing its power system.

VI. Involvement of Major Partners in Regional Integration

The "EU pull" is an important force in support of market integration. Under the Euro-Mediterranean partnership, Europe has provided technical assistance to the Maghreb in order to create a Maghreb electricity market and integrate it with the EU market. In June 2010, the Ministers of energy of Algeria, Morocco and Tunisia declared their decision to pursue increased cooperation among themselves and further harmonization with the EU market.

[12] Cooperation between the EU and North African countries was first initiated under "The Euro-Mediterranean partnership" which was set up in Barcelona in November 1995 (The Barcelona Process). The partnership was endorsed by 12 partner countries around the Mediterranean including Morocco, Tunisia, Algeria, Libya and Egypt (among others).

The European Investment Bank (EIB), the EU's long-term lending institution, is playing an important role in financing North African energy projects. The EIB as well as the EU Trust Fund provide grants for project preparation and technical assistance (through the Neighborhood Investment Facility funded by the EU budget) and mobilize finance from bilateral entities such as KfW and AFD. The EU and its members also contribute to the Mediterranean Partner Countries (FEMIP) Trust Fund which is a significant source of support for solar energy deployment in North Africa. EIB has the overall coordination responsibility on behalf of the EU for financing the investment requirements of the MSP, and will manage the European Green Energy Fund (EGEF) to provide private and public investors with EU-backed guarantees. Another idea at the development stage is the creation of an entity called E-SECURE to buy electricity generated by renewable energy and sell it on local and European markets.

The World Bank is a major player in energy integration. It has extensive lending activities and policy dialogue in North African countries (except Algeria and Libya), and thus has potentially some influence in energy sector developments. It has also launched a major task – the Arab World Initiative (AWI) – in conjunction with the Arab league and participating governments, to address energy integration in the countries of the Middle East and North Africa. The World Bank and the African Development Bank are preparing $750 million in finance from the Clean Technology Fund (CTF) to support the scale up of solar CSP in the North Africa region and Jordan. The World Bank's experience in regional integration, although focused mainly on infrastructure projects in other regions, potentially has useful lessons for North Africa. The World Bank's Adaptive Program Loan (APL) helped to promote energy integration in South East Europe by financing 14 loans that were consistent with a broad vision for energy integration in the region. The APL instrument enabled the World Bank to prepare a consolidated framework of a number of projects that needed to be conceptually, physically and institutionally coordinated, thus providing comfort to each member country that projects across the border were being constructed in a manner consistent with its own investment. The APL also simplified administration, as following Board approval of the umbrella operation management could approve individual projects, thus providing clients with a rapid response.

The World Bank's private sector affiliate – the International Finance Corporation (IFC) has also become active in supporting clean energy particularly renewable energy projects. It has invested more than $1.5 billion in renewable energy projects since 2005 and committed to providing $3 billion support in renewable energy and energy efficiency over the next three years. IFC invests in renewable energy in a variety of ways including early equity, rapid scale-up programs and projects, new technology deployment, manufacturing, financial intermediation, private equity funds, and carbon finance.

VII. AfDB's Ongoing & Previous Involvement in the Sector and Lessons of Experience

The energy sector, particularly the power sub-sector, has received a significant portion of the Bank's financial support to North African countries. Ongoing power projects account for about 33 percent of the active portfolio (ranging from 50 percent in Egypt, 29 percent in Morocco, and 23 percent in Tunisia). In Egypt, the AfDB is currently supporting the construction of three large power plants. In Morocco, where the country is heavily dependent on energy imports, the Bank has supported the construction of interconnections between Morocco, Spain and Algeria. In Tunisia, the Bank has provided financial support for the reinforcement of the electricity transmission and distribution networks. While the Bank's financial support has played an essential role in increasing the supply of energy and thus contributing to growth, the Bank's Economic Sectoral Work (ESW) program in the North African energy sector has been limited and needs to be reinforced. Bank's direct intervention and support of energy integration has been limited. This is rather expected since regional integration has not been considered an area of operational focus, and as national energy supply has been a critical consideration in formulating the Bank support to the sector. Prospects for the Bank involvement in energy integration are expected to change as North African countries are becoming increasingly aware of the benefits of integration and as the Bank is explicitly adopting regional integration as an area of priority.

VIII. Conclusion: Potential Areas of AfDB Involvement in Regional Integration in the Energy Sector

The Bank can play a critical role in helping North African countries overcome the obstacles to integration in the energy sector. Energy integration is being driven by the rapid growth in energy demand, the diversity of energy resources, and international support for North Africa's role as an energy transit corridor and a source of clean energy supply. However, energy integration faces numerous difficult challenges, as is evident from the experience of energy integration in other parts of the world. Several development agencies are involved in energy integration in the region, largely by supporting specific regional schemes or projects. To complement the work of other development partners, it is recommended that the Bank focus its involvement in three areas: technology transfer, institution building, and infrastructure development.

As technological development accelerates, so should the transfer of technology to developing countries. New energy technologies are being developed for almost all aspects of the energy sector, particularly renewable energy and transmission grids, both of which are relevant to network integration in North Africa. The Bank should support the knowledge sharing within the North Africa region, the transfer of technology from industrial countries, and the dissemination of experience from best practice cases like China and India. Egypt is in the forefront of wind power development in North Africa and can offer some very useful lessons to other North African countries in regard to the transfer of technology and domestic manufacturing and services of certain components of wind power plants. Within industrial countries Denmark is the pioneer of wind technology and provides generous support to the countries that plan to develop such technologies. Germany is a strong leader in solar technology and has recently (in 2010) set up a program to help North African countries in transfer of solar technology. The Bank involvement should include a close cooperation with the relevant institutes in the industrial countries.

Creation of an integrated electricity market will require a coordinated approach to energy regulation. While eventually the region should establish a regional regulator and a regional system operating authority, the Bank should first work with existing agencies to harmonize the most important regulatory requirements. This will be difficult in North Africa, as some countries lack an underlying electricity law and regulatory agencies exist only in Algeria (CREG established in 2005), Egypt (the recently-formed Egyptian Electric Utility and Consumer Protection Regulatory Authority – EEUCPRA) and Mauritania (a multi-sector regulator that includes the energy sector). In other countries the ministries serve some regulatory functions.

The Bank should support regular consultations among the transmission system operators (TSOs). The agenda for their coordination is extensive, particularly focused on the harmonization of their national grid codes. The areas that should be addressed include: load frequency-control and performance (primary and secondary and tertiary control, time control, and measures for emergency conditions), scheduling and accounting, operational security (operational planning and real-time operation, voltage control and reactive power management, network faults clearing and short circuit currents, stability, outages scheduling, information exchanges between TSOs for security of system operation), coordinated operational planning (outage scheduling, capacity assessment, capacity allocation, day ahead forecast, congestion management), emergency procedures, communication infrastructure, data exchanges, and operational training. Moreover, renewable energy projects will add an additional element of complexity through the need for their own interconnection conditions and grid code. While such projects should be given priority access and priority dispatch, they should not put at risk the reliability and safety of the transmission grid. Other contentious issues include determination of the spinning reserve requirement by each country, and the economic dispatch function given the demand-supply situation, and the price of electricity.

Finally, coordination is required among North African countries' network planning practices. Again, this effort would face the challenge of lack of uniformity in planning assumptions, analysis, and time horizons. Through this effort the Bank should build a platform for a consolidated picture of energy planning practices in North Africa, which also would assist in identifying investment needs.

The existing interconnection capacity in North Africa is inadequate to meet future power transfer requirements. The countries of North Africa (except for Mauritania) are interconnected at 220 kV level. A feasibility study has recommended, and the energy ministers have agreed, that the existing power interconnections within the region (ELTAM: Egypt-Libya-Tunisia-Algeria-Morocco) should be reinforced with 400 kV interconnections. Further upgrading will be required to support exports of power to Europe. Bank involvement in regional integration projects could follow the Adaptive Program Loans used by the World Bank to process a set of regional integration projects within a consolidated framework and under the umbrella of a single operation. This approach would simplify administration and assure participating countries that the Bank would play the role of coordinating the projects on both sides of the border.

The following activities, to be carried out jointly by regional and sector units, are proposed for AfDB involvement:

1. **Potential Regional Integration Projects.** As discussed in the previous sections there are a number of project proposals under consideration for long-term development of North Africa gas and power grids. The proposed projects are mostly related to two aspects of energy integration: strengthening the role of Egypt as an energy hub in the region, and exporting clean energy to Europe. Each of these developments has clear implications regarding the domestic and cross-border transmission facilities. Projects with a greater potential for implementation follow.

Identification of cross-border projects requires analytical work combined with intensive discussions with the countries involved. The Bank is in an advantageous position to support such processes because of its dialogue with all North African countries. It is also important to note that regional integration projects are not necessary limited to cross-border lines. Electricity trade takes place through a transmission corridor which could involve numerous projects that are within the borders of one country, i.e., formally considered national projects but are required for international trade. The Bank should remain open to finance such projects under the umbrella of regional energy trade. The Bank should formalize a project identification task that would carry out an initial assessment of the economic and financial viability of the proposed projects. Within this activity, one should examine the suitable lending instrument (including APLs) for supporting each proposed project.

2. **Transfer of Energy Technologies Task.** This activity would be aimed at facilitating the transfer of energy technologies by: (i) working with the International Energy Agency (IEA) to identify and

acquire the parameters of the emerging energy technologies suitable to the developments in North Africa; (ii) building a comprehensive information base about the new developments in North Africa of manufacturing and services related to clean energy (energy efficiency and renewable energy); (iii) establishing a network of prominent institutions that can help North African countries in transfer of technology; and (iv) providing financial support for field visits of advanced technology applications by the staff of North African utilities.

Table 4. Potential Energy Integration Projects in North Africa

(I)	Upgrading the Egypt-Libya interconnection to 500 kV. The current configuration includes a 220 kV double circuit, 163 km long, linking Tobruk S/S (Libya) and Saloum S/S (Egypt). The upgrade to 500 kV line is considered for 2015. Some preparation work has been done in the context of MEDRING and the ELTAM studies. Expansion of the Libya-Tunisia to 400 kV as well removing the current technical bottlenecks. The current interconnection consist of two lines: a double circuit 225 kV line, 380 km, between the substations of Mednine (Tunisia) and Abou Kammash (Libya) and a single 225 kV circuit km, between Tataouine (Tunisia) and El Rowis (Libya).The expansion to 400 kV is considered for commissioning in 2015-16 interval.
(II)	Construction of Morocco-Spain third transmission line. Morocco and Spain are currently interconnected and trade substantial amount of electricity. However, in order to export clean energy from North Africa to Europe, the Morocco-Spain interconnection is considered for significant expansion through a third line with a capacity of 1000 MW. The commissioning date is envisaged to be in the second phase of MSP (2013-2016).
(III)	Development of hydropower in Northern Sudan in combination with an HVDC transmission line to Aswan/Egypt. The attractiveness of this project has increased recently as Egypt is now trying to meet the significant growth in its power demand requirements. The Bank and the World Bank have carried out some of the preparation work.
(IV)	Construction of Egypt-Saudi Arabia transmission line. The Egypt and Saudi systems represent the two largest electricity grids in the Middle East and North Africa power networks. The two systems could be connected through the Gulf of Aqaba. A feasibility study has been completed recently that indicates the desirability of the interconnection with a capacity of 1500 MW to be upgraded to 3000 MW at a later stage. The commissioning date is envisaged for 2015.
(V)	Development of Mauritania's offshore gas in conjunction with a 500 MW power plant forinternal use and export of power to Senegal and Mali. This project could provide a strong complement to the OMVS hydroelectric grid. The commissioning date is envisaged to be around 2018-2020.
(VI)	Country-Specific Projects including: (a) strengthening the domestic segments of the Egypt-Morocco transmission corridor; (b) Egypt's Kom Ombo 100 MW CSP project; (c) Morocco's CSP Development Program including the 500 MW Ourzazate solar complex scheduled for construction by 2015.

3. Electricity Market Integration Task. This activity would be aimed at helping North African countries in harmonizing their regulations and their grid codes by: (i) compiling the Electricity Laws of North African countries and or other relevant documents that describe the regulatory provisions in each country; (ii) reviewing the regulatory issues to bring out the areas of inconsistencies and inadequacies; (iii) taking a stock of the grid codes of all North African countries; (iv) reviewing the grid codes in order to bring out major differences/inconsistencies, and recommend the type of grid codes to be adopted by these countries; and (v) compiling and reviewing the long-term planning practices in order to identify inconsistencies in the premises affecting market integration.

4. Analysis of Energy Integration in North Africa. The Bank's planned study of North African energy integration will: (i) carry out a country-by-country analysis of the power and gas sectors to assess opportunities for regional energy integration within North Africa and with the neighboring regions (EU, rest of Africa, Mashreq and the GCC regions), including the export of green energy; (ii) identify specific interconnection projects that may require support from the international financial community; and (iii) propose an agenda for the development of the infrastructure and institutional capacity of North African countries.

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2.2 Climate Change and the Environment

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The main objective of this note is to provide a broad synthesis of the major climate change and environmental challenges and activities in North Africa. This report describes (i) the global context for North Africa on environmental issues; (ii) major climate change and environmental trends and issues in North Africa; (iii) potential for regional integration in the climate change and environmental sector; (iv) potential for integration with Africa and the rest of the world in the climate change and environmental sector; (v) a broad agenda for regional integration in the climate change and environment sector; (vi) involvement of major partners on regional integration; (vii) the Bank's ongoing and previous involvement in the sector and lessons learned; and (viii) potential areas of bank involvement in climate change regional integration activities. This section provides detailed country level information, but rather offers a broad regional synthesis intended to capture the major environmental challenges and policies of the region to date. Its primary purpose is to inform the African Development Bank's efforts in North Africa with regards to climate change and the environment. However, it is also intended to national level policy makers, donor agencies and development partners who are active in the North African region.

The most vulnerable sectors to climate change in North Africa are water resources, agriculture, and coastal zones. In North Africa, there is enormous wind and solar resource potential that could lead to future Greenhouse gas (GHG) emission reductions. However, the diffusion of renewable energy and energy efficiency technology has not matched the region's potential due to a number of barriers. Regional integration can provide a range of benefits to vulnerable sectors, particularly on trans-boundary issues like water management and long-range air pollution. Greater coordination is necessary for knowledge sharing and for building the regional information systems to better understand climate change risks and solutions. Clean energy barriers can be tackled through integrated power sector reform. In addition, regional integration may act as a catalyst for country-level environmental goals and may result in greater bargaining power. This would enable North African countries to better assess and coordinate their position on the scale of donor funds.

The AfDB should help North African countries identify regional priorities, balance regional/ national ownership, develop effective coordination protocols, and involve the private sector

in adaptation and mitigation initiatives. Integration efforts can build off current activities at the national project level in North Africa. The majority of adaptation projects are concentrated in Morocco, Libya, and Egypt; projects related to water resource, agriculture and early warning systems are most common. In terms of mitigation, the majority of projects are taking place in Morocco, Tunisia, and Egypt. Renewable energy projects are dominant, followed by supply/demand efficiency improvements, industrial process improvements and other projects to reduce GHG emissions in a variety of activities.

There are a number of AfDB partners actively working in the region on climate change and environment issues whose activities could be effectively leveraged. These include the World Bank (WB), the Food and Agriculture Organization (FAO), the United Nations Development Program (UNDP), and Environment Program (UNEP), and the Global Environment Facility (GEF). While these organizations are engaged in a broad range of activities, there are several sectoral gaps that AfDB might address. On a general level, the region would benefit from the AfDB and its development partners focusing on the creation of enabling environments for the adoption of renewable technologies, strengthening relationships with partner organizations and capitalizing on opportunities to strengthen South-South ties. More specifically, three areas are considered key for the Bank: (i) information systems enhancement/development, (ii) risk management, and (iii) institution building.

Relative to its partner organizations, the AfDB has two major advantages working in the North Africa region. The first is that it supports investment projects at the country level and has the ability to incorporate capacity building and technical assistance into such projects. The second is that as a regional development bank, the AfDB has strong links with national and regional organizations throughout North Africa. Ideally, the AfDB should focus its involvement in climate change and environment activities within these comparative advantages. In specific cases of regional initiatives that include components where the Bank's expertise and experience is either lacking or weak, partnerships with other partnering Agencies should be established with clear complementary roles.

I. The Global Context

Climate change is one of humanity's greatest environmental and economic challenges, if not the greatest. Already in many parts of the world, coastal waters have warmed, temperatures have risen, and rainfall patterns have noticeably been altered. Globally, sea levels and temperatures are predicted to rise further, and extreme weather is expected to become more common. This is resulting in increasingly visible and heavy tolls, with its greatest impact exerted in poorer countries.

According to the Intergovernmental Panel on Climate Change (IPCC), North African countries are moderately to highly vulnerable to the effects of climate change and are projected to be among the first on the planet to experience the adverse impacts of climate change.

The North Africa region is struggling to cope with vulnerability of its water resources and agricultural activities under current climatic conditions, not to mention the longer term impacts associated with climate change. Longer term impacts will depend on the location with some areas experiencing more extreme heat, while others may cool slightly. Flooding, drought, and intense summer heat would result, as well as more violent and more frequent extreme weather events. Sector specific impacts are anticipated and pose serious threats to local livelihoods. Climate change and population growth, coupled with rapid and informal urbanization will have severe implications for public health, particularly affecting the hygiene and quality of drinking water, sewage, solid waste and air quality. Subsistence farmers may come under significant additional risk as crop cycles and yields are negatively affected by reduced rainfall.[13]

Much of the region's population, infrastructure and economic activity are located in coastal zones and vulnerable to sea level rise, salt-water intrusion, and more frequent extreme weather events. The region's characteristic arid soil, erosion, and excessive runoff are conducive to natural disasters related to flooding and extreme precipitation; this has important implications for disaster risk management. A country's vulnerability and adaptive capacity, with respect to climate change, vary according to its demographic and socioeconomic trends, resources, institutional capacity, and infrastructure and other characteristics. Given national differences, understanding a country's specific context for adaptation is particularly relevant when identifying strategies for climate change adaptation.

International agreements on climate change and sustainable development offer opportunities for North African countries. At the global scale for developing countries, regional integration relative to environment and climate issues revolves around the achievement of the Millennium Development Goals (MDG). At the recent High Level Plenary Meeting of the UN General Assembly,[14] several emerging issues were identified that relate to regional integration and the impact of climate change on the MDGs. A clear consensus emerged about the need for

[13] Climate Change (2007), Impacts, Adaptation and Vulnerability: Contribution of Working Group II to the Fourth Assessment Report of the IPCC, 978 0521 88010-7 Hardback; 978 0521 70597-4 Paperback.
[14] UN Summit, 20-22 September 2010, New York, available at http://www.un.org/en/mdg/summit2010/pdf/Background%20Notes%20RT4%20Emerging%20Issues%20Rev%20PGA%20final.pdf

broadening and strengthening partnerships for greater global and regional integration around mitigation and adaptation activities.[15] This is meant to include promoting greater use of renewable energy, developing resilience to projected climate change impacts, strengthening institutional capacities, and delivering appropriate technological solutions. To address transboundary issues for adaptation and to exploit potential economies of scale regarding mitigation, such actions will require regional policy and resource allocation changes, together with major increases in international support.

There have already been several major regional projects undertaken in Africa with links to climate change and the environment whose experience could benefit North Africa. One example is the West Africa Power Pool Project (WAPP) which aims to connect national power grids across West Africa. In addition to the project's mandate to reduce costs and increase supply and reliability of electricity, WAPP aims to improve energy efficiency, develop renewable energy sources, promote the use of cleaner fuels, and employ technologies and technological means that can reduce pollution.[16] To support regional initiatives across the continent, the World Bank established an Africa Regional Integration Department in 2004 which today manages a lending portfolio of about $2.2 billion and includes a knowledge and capacity development programs.

In the EU, there are several strategic programs to facilitate the EU working as a single bloc of countries relative to GHG mitigation strategies. One of the earliest examples is Directive 2003/87/EC of the European Parliament and of the Council of 13 October 2003 which established a scheme for greenhouse gas emission allowance trading within the Community.[17] In response to international developments in negotiations of the climate change treaty (i.e., the UN Framework Convention on Climate Change), Directive 2009/29/EC of the European Parliament and of the Council of 23 April 2009 amended Directive 2003/87/EC to provide the basis to improve and extend the greenhouse gas emission allowance trading scheme of the European Community.[18] A standardized system of GHG emission registries, the basis by which to monitor the effectiveness of GHG-reduction strategies is included in a 17 February 2010 Commission Regulation.[19] These experiences are noteworthy of the strong regional integration of the EU on climate change and environment issues.

[15] Mitigation refers to efforts to reduce greenhouse gas (GHG) emissions through clean energy and energy efficiency initiatives; adaptation refers to efforts to reduce the vulnerability to adverse climate change impacts.
[16] See Article 19 of the ECOWAS ENERGY PROTOCOL A/P4/1/03, 2003
[17] Available at http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:02003L0087-20090625:EN:NOT
[18] Available at http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:32009L0029:EN:NOT
[19] Available at http://ec.europa.eu/environment/climat/emission/pdf/regreg_iv_ver2_17feb10.pdf

The EU adaptation to climate change program calls for a flexible, four-pronged approach including, early action, building new alliances, EU-level research, and development of coordinated strategies and actions. On 29 June 2007, the EU Commission adopted a Green Paper proposing coordinated across member countries to deal with the effects of climate change.[20] The EU green paper on adaptation recognized the need for "multilevel governance" since impacts vary from region to region, depending on physical vulnerability, the degree of socio-economic development, natural and human adaptive capacity, health services and disaster surveillance mechanisms. Member countries are also called to develop and implement national adaptation strategies, depending on the magnitude and nature of the observed impacts, assessments of current and future vulnerability and the capacity to adapt.[21] Some actions and measures in these plans are increasingly being taken at regional and sub-regional scales with the ultimate objective of facilitating the EU in working as a single bloc relative to climate change adaptation strategies.

No other free trade zones can match the progress of the EU on climate change and environment issues. When the North American Free Trade Agreement (NAFTA; comprising Canada, Mexico, and the US) entered into force in the early 1990s, environmental issues were an afterthought appended to a side accord, the North American Agreement on Environmental Cooperation (NAAEC). Climate change initiatives under NAAEC foundered amid strong opposition in the US Congress to the Kyoto Protocol. Absent coordinated action, various US states and Canadian provinces have pursued their own climate change policies. However, these have not been sufficient to stem large GHG emission increases in all three NAFTA countries. In the US, GHG emissions rose by 17 percent between 1990 and 2005; in Canada, they raised by 26 percent increase over 1990 levels; in Mexico, though still low on a per capita basis, they increased by 37 percent during the same period (Scott and Fickling, 2009). With the Obama Administration, climate change is ranked as top priority and there is now recognition of the need to implement coordinated action to substantially reducing GHG emissions. The American Climate and Energy Security Act (ACESA) represents an important step in coordinated action although it remains unclear how ACESA will affect NAFTA partners.

ASEAN Leaders have expressed commitment to play a proactive role in addressing climate change. This is evident through their declarations to the 2007 Bali and 2009 Copenhagen UN Conferences on Climate Change. They view the protection of the environment and the sustainable use and management of natural resources as essential to the long-term

[20] Available at http://eur-lex.europa.eu/LexUriServ/site/en/com/2007/com2007_0354en01.pdf
[21] Available at http://www.eea.europa.eu/themes/climate/national-adaptation-strategies

economic growth and social development of countries in the region. The ASEAN Vision 2020 calls for "a clean and green ASEAN" with fully established mechanisms to ensure the protection of the environment, sustainability of natural resources, and high quality of life of people in the region (Letchumanan, 2010). With respect to climate change, ASEAN Environment Ministers have endorsed the Terms of Reference of the ASEAN Climate Change Initiative (ACCI), a consultative platform to further strengthen regional coordination and cooperation in addressing climate change, and to undertake concrete actions to respond to its adverse impacts through policy and strategy formulation, information sharing; capacity building; and technology transfer.

The North African region can benefit from the EU and ASEAN experience in three important ways. First, standardized systems are essential for monitoring the effectiveness of regional strategies. This enables the direct comparison of progress based on a measurement basis that is common to all bloc members. Second, working as a single bloc relative to issues with transboundary implications needs to be emphasized. This was particularly important when considering climate change adaptation strategies. Third, deliberate flexibility is needed to allow for multilevel governance in regional integration schemes. This is important since priorities/impacts vary from country to country and natural and human adaptive capacity can differ significantly. The summary message for North Africa is that there is a need for a harmonized approach to capacity strengthening, increasing resilience to climatic shocks, progress measurement and evaluation, and governance.

II. Overview of Major Climate Change and Environment Trends and Outstanding Issues in North Africa

North Africa is expected to become hotter and drier over the coming decades. Regional studies show agreement that temperature across Northern Africa are expected to rise to varying degrees in the different countries. On average, temperature is expected to rise between 1 and 5ºC during the 21st century. By 2020, rainfall is expected to drop by between 5% and 20% on average per year relative to a baseline climate between 960-1990. In response, most North African countries have undertaken considerable efforts to address climate change. All have signed and ratified the United Nations Framework Convention on Climate Change (UNFCCC). Most have submitted their Initial National Communications and signed and ratified the Kyoto Protocol. Several countries are very active in the negotiations. Libya is an exception to regional activity on climate change as it has yet to establish any research or policy-related activities regarding climate change (see Table 1).

Table 1. Climate Change Engagement by Country

Country	3 UNFCCC ratification	Kyoto Protocol ratification	Initial National Communication (INC) Submission	Second National Communication (SNC) Submission	Vulnerable sectors characterized in INC	Adaptation strategies proposed?	Mitigation strategies proposed?
Algeria	9-Jun-93	16-Feb-05	30-Apr-01	In process	A, WR, L	Yes	Yes
Egypt	5-Dec-94	12-Jan-05	19-Jul-99	7-Jun 10	A, WR, CZ	Yes	Yes
Libya	14-Jun-99	24 Aug-05	NA	NA	NA	NA	NA
Mauritania	20-Jan-94	22-July-05	30-July 02	6-Dec 08	A, CZ	Yes	Yes
Morocco	28-Dec-95	25-Jan-02	1-Nov-01	In process	A, WR	Yes	Yes
Tunisia	15-Jul-93	22-Jan-03	27-Oct-01	In process	WR, CZ, E, $	Yes	Yes

A= agriculture; WR=water resources; L=livestock; CZ=Coastal zones; E=ecosystem; $=economy; NA=not applicable

Source: Data based on National Communications found on the UNFCC Secretariat.

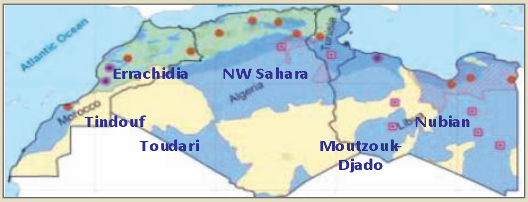
Efforts are underway across the region to identify most vulnerable sectors and potential adaptation strategies to reduce vulnerability. Generally arid to semi-arid, North Africa is characterized by a fragile resource base, steep population growth, and increasing stress from national development activities, factors which combine to render the region highly vulnerable to climate-related impacts. Already, the countries of the region are being forced to cope with and adapt to changes in climate, as evidenced by autonomous responses to the significant warming trends of the last 40 years and the discernable increases in drought frequency and intensity. Adaptation, the process of building resilience against an acceleration of such patterns, is part of an overall response to the threat that climate change poses to the people of North

Box 1. Transboundary Water Resources in North Africa

Surface water: *North Africa has six (6) transboundary watersheds that encompass about 242,000 km2 and upon which about 7.1 million people depend. None of these watersheds is under an international/bilateral treaty.*

Source: Atlas of International Freshwater Agreements. The map was modified by the authors.

Groundwater aquifers: *North Africa has six (6) transboundary aquifers that play a critical role for rural and nomadic people and irrigated agriculture through oasis wells.*



Source: UNEP, Water Research Council, 2009. Assessment of Freshwater Vulnerability in Africa to Climate Change.

Africa. The region's fragile resource base, rapid population growth, and increasing stress from national development activities render the region highly vulnerable to climate-related impacts. Already, the countries of the region are being forced to cope with and adapt to changes in climate, as evidenced by autonomous responses to the significant warming trends of the last 40 years and the discernable increases in drought frequency and intensity. The region's water resources, agricultural activities, and coastal zones are the highest priorities across the region for integrating systems to increase resilience against reduced rainfall patterns, higher average temperatures, and more extreme weather events.

Future water shortages are likely to be the most significant impact of climate change in North Africa.[22] Already, five of the 6 North African countries are among the most water-stressed countries of the world, with water supply less than 1,000 m^3 per capita[23], a situation that is likely to worsen under a changed climate. Compounding the problem is population growth. Since 2001, Mauritania's and Libya's annual population growth rates have consistently exceeded 2%, while Algeria's, Egypt's, Morocco's and Tunisia's have remained between 1% and 2%. As these demographic changes produce greater demand, any increases in evaporation from rising temperatures will reduce supply, leading to the aggravation of existing water scarcity challenges. Egypt, Algeria, Libya, Morocco and Tunisia have all implemented adaptation projects to address water scarcity. However, inadequate governance and resource planning capacity pose long-term sustainability challenges in the case of the six transboundary watersheds and six transboundary groundwater aquifers across the region (see Box 1). Such challenges are being faced in case of the Nile River Basin as part of the Nile River Basin Initiative (NRBI) with the 10 riparian countries upstream of Egypt.

Common to all North African countries is the recurring threat of drought. Rainfall fluctuates greatly by season and from year to year. Some countries have experienced greater drought frequency in recent years. For example, out of the eleven major droughts that took place in Morocco during the 20th Century, four occurred between 1982 and1996. A continuation of current activities is incompatible with the level of climatic risks, a situation that will only worsen absent comprehensive strategies for shifting production patterns that are more consistent with the level of climate risk. Drought early warning systems and the associated need for data acquisition and sharing is broadly recognized as a high priority, as is disaster preparedness and recovery arrangements and protocols.

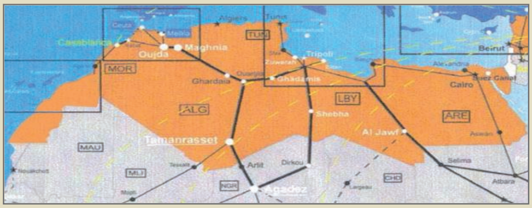
[22] IPCC Third and Fourth Assessment reports; available at:
http://www.ipcc.ch/publications_and_data/publications_and_data_reports.htm#1
[23] Coping with water scarcity. Challenge of the twenty-first century." UN-Water, FAO. 2007; available at:
http://www.un.org/waterforlifedecade/scarcity.html

Coastal zone impacts are also particularly important for North Africa due to the concentration of population, infrastructure, and industry in coastal zones. The IPCC estimates that global average sea-level rise (SLR) could rise by up to 0.59 meters by 2100 and could lead to inundation, erosion, and flooding. At present, integrated coastal zone management, though recognized as an important adaptation strategy, is practiced unevenly within North African countries and lacks an effective regulatory framework in most of the countries. Shoreline management will need to be coordinated as the installation of hard coastal protection in one country may lead to increased erosion in neighboring countries.

Several other vulnerable sectors have emerged in climate change policy dialogues, notably public health, and security. According the IPCC's Third Assessment Report, adverse health impacts of climate change expected throughout the region include thermal stress and air pollution-related diseases, diseases related to higher UV-B exposure, and infectious diseases related to the hygienic circumstances of water. While there has not been much work so far in the region, the Arab League has called for a need to enhance existing methodologies and capacities to undertake integrated assessment of climate change impacts in human health (Arab League, 2005). As of this writing there are no region-specific databases that link disease incidence with climate change indicators. Climate change could also aggravate security issues across the region as higher incidences of extreme weather events such as heat waves and droughts could lead to climate change refugees (Brown, 2008). Migrations flows to, between, and from the region are already well established (see Box 2) and could increase conflicts in transit and destination areas with increasing impacts from climate change. Europe is already expecting migration pressure from North Africa and other areas due to climate change (European Commission, 2008). This emphasizes the cooperation in the design of effective disaster reductions recovery efforts.

Box 2. Migration Routes into and through the MENA Region

The figure below identifies multiple migratory flow pathways including into parts of the region, within the region, through the region to Europe and elsewhere. Some of the regions from which current migrants enter North Africa are the very ones projected to be the hardest hit by future climate change (e.g., Mali, Sudan, Ethiopia).

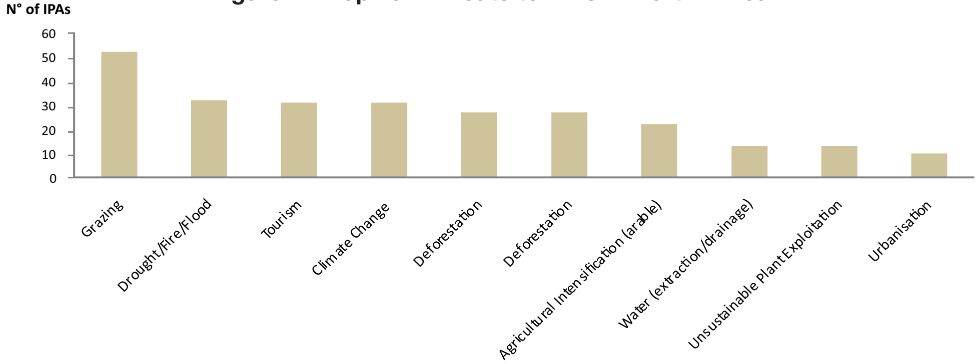


Source : Adepojou, 2006, The Challenge of Labour Migration Flows Between West Africa and the Maghreb, International Migration Paper. The map was modified by the authors.

North Africa also faces daunting environmental challenges that are not directly related to climate change. Desertification is a major problem that contributes to loss of critical agricultural land and biodiversity. Human pressures on fragile dryland vegetative cover have already led to accelerated desertification in virtually all North African countries, with particularly widespread desertification occurring in Morocco, Algeria and Tunisia. Drivers such as mal-adapted farming techniques (e.g. overgrazing) and deforestation are exacerbating desertification at a rapid pace with accompanying high economic and human costs. In response, Algeria, Morocco, and Tunisia have taken action through the Maghreb Charter for Environment Protection and Sustainable Development, which complements adaptation activities through its strong links to the fight against desertification in the region. There is also the Sahara and Sahel Observatory (OSS), which encourages co-operation on combating desertification throughout North Africa. The OSS has launched the DOSE programme, which is developing tools to help decision-makers and stakeholders understand the desertification process as well as provide decision-makers with sound scientific and technological tools to combat desertification within a sustainable development perspective.

Loss of biodiversity is also a major issue across the region. North Africa is part of the Mediterranean Basin Hotspot, one of the earth's most diverse and most endangered eco-regions. North Africa has 78 Important Plant Areas (IPAs) - internationally significant sites for plant diversity – which support livelihoods, house diverse species and provide critical services such as water and flood control, carbon capture, and prevention of desertification. With 21 identified IPAs, Algeria has the highest concentration of important plant areas in the region, followed closely by Egypt (20), Morocco (19), Tunisia (15) and Libya (5). Virtually all North African IPAs are vulnerable to human and climate stressors (see Figure 1), the most significant of which is grazing by sheep and goat herds. The level of official protection for IPAs within each country ranges from 0 – 80%. Virtually all North African IPAs are vulnerable to human and climate stressors (see Figure 1), the most significant of which is grazing by sheep and goat herds. The level of official protection for IPAs within each country ranges from 0 – 80%.

Figure1. Top Ten Threats to IPAs in North Africa



Source: E.A. Radford, G. Catullo and B. de Montmollin. 2011. Important Plant Areas of the South and East Mediterranean Region Priority Sites for Conservation. IUCN, Gland, Switzerland and Málaga, Spain.

Greenhouse gas mitigation, or reducing the future growth of emissions that lead to global warming, is also underway in the region. As discussed in detail in the Energy Issue Note, fossil fuel use contributing to GHG emission levels has been steadily increasing in the region since the 1990s, giving way to parallel increases in the emissions of greenhouse gases. Typically, mitigation activities involve the increased use of renewable energy to displace the energy now produced by fossil fuel combustion. In North Africa, there is enormous wind and solar resource potential, as well as some hydro resources in the case of Morocco. Mitigation activities also involve energy efficiency and conservation programs that can reduce overall levels of fossil fuel use, particularly with respect to the use of electricity. Given the treatment of renewable energy opportunities in the Energy Issue Note, a discussion of GHG mitigation issues in the rest of this Climate Change and Environment Note will be largely limited to an overview of the kinds of mitigation projects currently underway, trends in energy efficiency and potential regional carbon markets that could emerge.

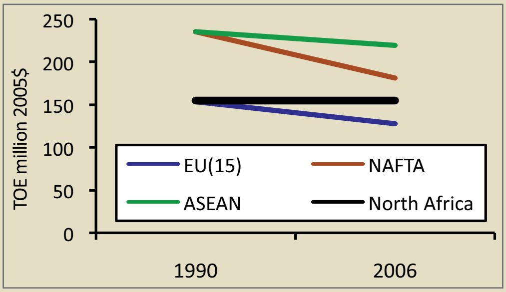
There has been a significant amount of project-level investments in GHG mitigation projects in North Africa. As the dominant share of GHG emissions in North Africa is due to electricity consumption in the residential, commercial and industrial sectors, many of these projects are focused on greening the electricity supply. Indeed, increasing electricity demand, caused by economic growth, demographic changes and progressing urbanization, is putting pressure to increase electric supply capacity and upgrade transmission and distribution systems. However, renewable energy projects face strong barriers due to rigid electricity market structures in most of the North African countries which are mainly unliberalized, non-competitive and dominated by state monopolies (Brand and Zingerle, 2010). Moreover, renewable resource potential for wind, solar and biomass are under defined and have not kept pace with technological improvements that can exploit renewable resources more effectively (e.g., wind turbines at 100-meter heights). In view of the high share of energy-based GHG emissions in the inventories of North African countries, sustainable energy strategies have tended to focus prominently on sustainable energy supply/demand technologies and strategies that also achieve (GHG) mitigation objectives.[24]

[24] In North Africa, as in most regions of the world, energy-based emissions account for the majority of annual greenhouse gas emissions. Except for Mauritania, GHG emissions from energy use activities range from 60% in Morocco to 77% in Algeria (in Mauritania they constitute only 14% with the majority of emission, 69%, are from agricultural activities).Source: Initial National Communications of Algeria, Egypt, Morocco and Tunisia, and the Second National Communications of Mauritania.

Demand-side electricity efficiency is low throughout the region with notable exceptions. While energy efficiency activities do exist in the region (notably in Tunisia), they are currently limited and have not kept pace with international trends. This is most evidenced by trends in energy intensity which has been increasing in the North African region (see Box 3). This contrasts with decreasing trends in energy intensity in many other parts of the world, including areas which have regionally integrated economic communities (i.e., the EU (15), NAFTA, and ASEAN). In large part, this is due to a lack of regulatory frame works for energy efficiency standards for buildings, appliances, and vehicles within countries, and harmonized standards across the region.

Box 3. Energy Intensity Trends in North Africa and Other Regions

Energy intensity is a measure of how efficiently energy is used in the economy. It is expressed in units of energy use (e.g., Tonnes of oil-equivalent, or TOE) per unit of gross economic output (e.g., real $). A low value indicates that energy is consumed efficiently; a high value indicates that energy is consumed inefficiently as increasing amounts are needed to produce a unit of economic output. In contrast to other regions where energy intensity is declining significantly, energy intensity shows a slight increase over the 1990-2006 period for the 6 North African countries, as shown in the Figure below.



Source: Climate Analysis Indicators Tool (CAIT) developed by the World Resources Institute

Traditional environmental challenges persist in the region, foremost among these being air pollution and accompanying transboundary air pollution. North Africa experiences significant impacts from air pollution from industrial and transportation activities. Emissions of air pollutants such as nitrogen oxides and volatile organic compounds, can cause adverse impacts on public health and reduce crop yields due to the transformation of nitrogen oxides and volatile organic compounds into tropospheric ozone in the presence of sunlight. And, given the long-range transport characteristics of these and other pollutants, the emissions in one country may lead to adverse impacts in downwind countries. Regional cooperation in Europe, Southeast Asia, and North America has resulted in steady reductions in air pollution. At present, the North African countries do not enjoy effective regional cooperation of transboundary air pollution issues.[25] Given that urban on-road vehicle use and industrial activities are expected to continue rapid growth, the associated transboundary air pollutant problem will be exacerbated without effective policies.

[25] Sahara and Sahel Observatory and the Global Atmospheric Pollution Forum, Regional co-operation on air pollution and climate change in the Arab Maghreb Union and Egypt.

Waste management poses another major environmental challenge across the region. Landfills remain a critical problem in North African countries. Current poor management practices are generating social losses, loss of recreational areas and amenities, decreased local and foreign tourism, adverse public health impacts, reduced fish catches, and loss of biodiversity.[26] The region's proper disposal rate is low - about 11% in 2005. Increasing this rate through sustainable waste management (i.e., proper solid waste collection, increased separation/recycling, improved disposal in controlled sanitary landfills) is a serious challenge facing local municipalities. Capturing methane generated by landfills can lead to the creation of carbon assets that can later be sold through the carbon funding mechanism instituted under the Kyoto protocol. At present, several countries have signed on to collaborate in SWEEP-NET, a GIZ-funded initiative that aims to create favorable conditions for environment-friendly waste management, strengthen national capacities for waste management, support regional cooperation for solid waste management, and promote a sustainable development in the region.

Despite their shared challenges, North African countries have significant socio-economic differences which may influence their national priorities and adaptive capacities (see Table 2). There are substantial differences in land area, population and GDP. There is also limited but significant spread among other key indicators, such as GDP per capita, economic growth rates, and infrastructure. On the other hand, all countries are struggling with high unemployment rates and modest annual economic growth. Countries may be less inclined to allocate critical financial resources to the environment than countries with stronger economic indicators. The availability of key physical infrastructure, like paved roads, may also impact the adaptive capacity of individual countries. Nevertheless, the tumultuous recent political events in Tunisia, Egypt, Morocco, and Libya underscore the profound governance changes, opportunities, and challenges at work in the region.

Table 2. Country Level Comparison

Country	Population (millions) 2009	GDP 2009 (billion constant 2000 US$)	GDP per capita in 2009 (constant 2005 international $)	Average annual GDP Growth, 2006-2009 (%/year)	Unemployment in 2008 (% of total labor force)	Paved Roads in 2008 (% of total road network)
Algeria	35.0	76.4	7,421	2.4	11.3	73
Egypt	83.0	152.4	5,151	6.4	8.7	87
Libya	6.4	50	14,985	4.5	-	-
Mauritania	3.3	1.5	1,751	4.0	-	-
Morocco	32	57.9	4,081	5.3	9.6	67
Tunisia	10.4	29.3	7,512	4.9	14.2	75

Source: World Bank Development Indicators, 2009.

[26] Source: Mediterranean Environmental Technical Assistance Program, "Carbon Finance Instrument to Improve Coastal Zone Solid Waste Management".

At present, there is significant diversity regarding institutional capacity within the region. Morocco and Tunisia are implementing aggressive climate change policies and have strong and steadily improving institutional capacities. In contrast, Egypt's substantial legal framework has been subject to institutional coordination and enforcement challenges, a situation that also applies to Algeria and Mauritania. Libya has done little on climate change except on water resource management and some renewable energy issues, but has yet to submit its initial National Communication. Given these various stages of capacity development, the AfDB may very well act as a catalyst for harmonizing efforts to increase institutional capacity across North Africa.

III. Dimensions and Potentials of Regional Integration in North Africa

In North Africa, there is currently little political momentum for regional integration, an overlapping set of trade agreements and agendas, and a preponderance of economic ties outside the region, particularly with Europe (AfDB, 2010). Trade among the countries of the region is below 3% of total trade, the lowest level of any WTO registered regional trade agreement. And, all the countries, with the exception of Mauritania, focus on the EU's export market rather than sub-Saharan African markets. Punctuating these trends is the fact that there are simmering political tensions in the region (e.g., Algeria and Morocco over Western Sahara) as well as no single politically dominant country that could play a championing role for integration.

Nevertheless, there is evidence that the region is gradually seeking to strengthen existing arrangements on climate change and environment issues through stronger cooperative links. While North Africa is unlikely to evolve toward a unified institutional arrangement anytime soon, there is ample evidence the subsets of North African countries are engaged in regional projects of some kind on climate change. A summary of ongoing multi-country cooperative efforts on mitigation and adaptation activities shows extensive ongoing linkages on a range of topics including coastal zone management, early warning systems, and solar energy (see Table 3). Partnering relationships are in evidence with private/public organizations in the EU as well as elsewhere in the Middle East region.

These projects/programs can form the basis for future regional integration in the climate change and environment sector. A key point of departure in identifying some of the major steps needed is to understand the most desirable form of regional integration. Three potential levels exist: cooperation (i.e., lowest level of regional integration involving project-fused collaboration while retaining control and opt-out flexibility), harmonization (i.e., formalized degree of coordination involving standard rules and procedures for licensing, quality control, performance targets, etc) and full integration (i.e., highest level of integration involving the set up of a supranational body taking on some form of sovereignty).

Table 3. Multi-country Cooperative Links on Mitigation and Adaptation Issues in North Africa

Area	Algérie	Egypt	Libya	Morocco	Tunisia	Regional cooperation activity	Donors/partners
Adaptation		✔		✔	✔	Coastal Vulnerability	Global Facility for Disaster Reduction and Recovery
	✔			✔	✔	Drought early warning systems	EU, OSS, Algerian Space Agency, CRTS (Morocco), National remote sensing centre (Tunisia)
	✔	✔	✔	✔	✔	Integrated Coastal Zone Management	IFAD, GEF, World Bank, Sustainable MED
	✔	✔	✔	✔	✔	Coastal Zone Management	IFAD, GEF, World Bank
		✔		✔	✔	Wastewater Treatment & Recycling	Sustainable Med, GEF
	✔				✔	Integrated Development of Mellegue Watershed	IFAD, AFESD, GoA
Mitigation	✔	✔	✔	✔	✔	Proposed North Africa-EU Solar Project	Trans-Mediterranean Renewable Energy Cooperation
		✔	✔	✔		Concentrating Solar Power (Desalination)	AQUA-CSP German DLR, NERC, Club of Rome, CSES, CDER,
		✔	✔	✔		Solar Powered Desalination	EU, NREA (Egypt), ONEP (Morocco)
	✔	✔		✔		Study to interconnect Europe, Middle East & North Africa to supply 15% of EU electricity by solar	DLR (Germany), NREA (Egypt), NEAL (Algeria), IFEED (Germany)
	✔				✔	REMAP - Action Plan for high priority renewable energy initiatives in the Southern Eastern Med	OME, Acciona, ADEME, DLR, ESD, NERC, SONELGAZ, S3E
		✔		✔	✔	Renewable Energy cooperation	ADEME
	✔			✔		Strengthen Algeria-Morocco-Spain interconnect	NEPAD
	✔	✔	✔	✔	✔	Renewable energy cooperation	MEDREC
	✔	✔		✔	✔	Land use change/forestry	FAO
	✔	✔	✔	✔	✔	DESERTEC – solar energy project	ABB, FLAGSOL, PriceWater-house Cooper, FLABEG, HSN Nordbank, Munich RE, Jungmut, Skies & Meadows, Nissen Consulting

Source: Authors.

In North Africa, regional integration progress on climate change issues has clearly trended toward the cooperation level. Joint activities have involved the strengthening of national institutions through collaboration as opposed to setting up supranational organizations that could possess a notable degree of sovereign power. Cooperation has been focused on joint development projects to exploit renewable energy potential, exchanges of information and best practices, and the development of new planning frameworks responsive to a dynamic climatic baseline. While this may be the lowest level of regional integration it may be most effective for addressing many challenges associated with climate change that require regular exchange and consultation but no supranational body to make decisions.

While national governments will remain the main actors for the foreseeable future, the Arab Maghreb Union secretariat, if better capitalized, could serve as a cooperation facilitator and monitoring agency within the climate change and environment sector. Given this point of departure, there are several dimensions to promoting strategic integration in the climate change and environment sector across the region. First, activities should be designed and implemented within a strategic framework that ensures adaptation and mitigation priorities are identified within a framework of mainstreaming with national development strategies. Second, the success of regional cooperative activities will likely depend on how stakeholder-driven they are. Pre-project assessments integrating with inputs from a diversity of regional stakeholders are crucial to ensure activities are both locally and regionally owned. Third, given that regional projects/programs inevitably face more complex coordination challenges, it is important to clearly establish clear and non-overlapping responsibilities between the national and regional institutions involved. This will involve, among others, setting up of suitable modalities to design and implement regional activities, promoting institutional accountability among regional partners, and promoting financial accountability with donors. Fourth, except for the electric grid integration project and some renewable energy joint ventures, private sector involvement has been limited in ongoing regional cooperative activities in the sector. Involving the private sector on adaptation activities will require attention to the development of an enabling to promote participation (e.g, regional regulatory frameworks).

Finally, North Africa has receptivity to building capacity in climate change and environment. A capacity strengthening roadmap would be useful to develop to pursue specific programs and activities in several key areas, including potential regional partnerships and alliances development, influencing adaptation policy-making in core vulnerable sectors, and effective organizational processes use and development for GHG mitigation initiatives.

IV. Integration with Africa and the Rest of the World (other Geographical Dimensions)

There are several prominent EU initiatives in the climate change and environment sector that involve the development of stronger links with the North Africa region. A key initiative for collaboration within the Mediterranean basin is the "Union for the Mediterranean" (UfM) initiative launched in July 2008 at the Paris Summit of the Barcelona Process. This initiative emphasized, among other things, pollution prevention/cleanup and renewable energy. The Mediterranean Solar Plan (MSP) is a key component of the UfM and is designed to ensure that increased electricity demand in the region can be met in a sustainable and renewable way. The plan aims to achieve this through the development of 20 GW of renewable electricity capacity in North Africa and electricity interconnections with Europe. A key element of the plan is also the promotion of a new regulatory framework to better encourage the development of renewable energies and to facilitate the exchange of electricity. The "Mediterranean Climate Change Initiative" is a key outcome of the UfM that is to be launched in October 2010 in collaboration with Mediterranean countries and with the support of the European Investment Bank. It is an autonomous political initiative to strengthen collaboration on climate change adaptation and mitigation issues.

The EU has funded an active research program on climate change and the environment for several years that includes EU-North Africa initiatives. In its 2009 research program, the EU called for several programs that strongly intersect with the climate change and environment sector. Specifically, the program includes an explicit focus on regional cooperation on adaptation to climate and environmental change, and related issues such as sustainable cities and coastal zones. Major collaborative EU-North Africa research efforts focus on climate-induced changes in water resources in southern Europe and neighboring countries as a threat to security, desertification processes and land degradation, and wild fires in the context of climate and social changes.

A variety of large scale energy projects are underway that have strong implications for greenhouse gas emissions. The Euro-Mediterranean cooperation in the field of energy is intended to create "a common Euro-Mediterranean energy market" based on free competition and reciprocal access to energy markets. It involves harmonization of integration of energy markets in the Euro-Mediterranean region, diversifying energy sources, including low-carbon sources and renewables, and initiatives of common interest in key areas, such as infrastructure extension, investment financing and research and development, and increasing role of the private sector. At present there are about €3.2 billion planned for infrastructure projects over the next four years including a Maghreb-Europe pipeline; a trans-Saharan pipeline that would allow Europe to import Nigerian gas via Algeria; electricity interconnections between Algeria, Tunisia, Morocco, Turkey and the EU. EU engagement with North Africa mirrors to some extent historic trade engagement levels, about 40 % and 80% of exports of North Africa countries are destined for the EU market. EU dominance as an export market for North African countries in typified by very high levels in the case of Libya and Tunisia (83% and 80%, respectively). Exports to the EU from Morocco (69%), Algeria (55%) and Mauritania (53%) are also very high while the EU share of Egyptian exports is around 42% (Achy, 2006).

There is nothing comparable to the EU experience in the climate change and environment sector described above that exists with the rest of Africa, or for that matter the rest of the Arab world. For sub-Saharan Africa, there have been some examples of multi-lateral funded climate change initiatives (e.g., UNEP/START program on adaptation research involving Egypt, Tunisia, Morocco and five sub-Saharan countries) but such initiatives are modest compared to those involving EU partners. Regarding the rest of the Arab World, a number of efforts are underway, as summarized below, which indicate growing efforts to establish cooperative relations across the region, particularly on adaptation issues.

- **Gulf region:** The Gulf Cooperation Council has some promising climate change related initiatives (e.g., Masdar in the UAE). Linkages with the North Africa region remain undeveloped at the present time.

- **Arab League:** While the Arab League has convened meetings to address climate change,[27] overseen the launch of an Arab Climate Campaign, produced an Issue Paper on climate change, and published reports highlighting the risks of climate change impacts to its member countries,[28] regional cooperative activities have yet to be established.

- **Agricultural cooperation:** Under the auspices of the FAO, researchers from the broader Middle East and North Africa (MENA) region were convened in November 2009 for the Near East and North Africa Climate Change Forum where a roadmap for near- to medium-term cooperation across the region on climate change adaptation was established to focus on water management, cropping systems, range and forest land management, and cross-cutting issues.[29]

- **Urban preparedness:** In October 2010 a new initiative in the Arab region was launched in Kuwait under the auspices of the UN International Strategy for Disaster Reduction (UNISDR) called "Making Cities Resilient". The campaign is premised on the fact that the Arab region is highly susceptible to climate-related disasters with several cities having recently experienced floods (i.e., Hadramout in 2008; Jeddah in 2009 and Agadir in 2010). The campaign offers a good platform for coordinated action in urban areas across the region.

[27] Environmental officials from the 22 members of the Arab League met in Cairo in August 2007 to discuss the effects of climate change on the Middle East, and Arab countries' possible responses to it. The meeting was widely perceived to signal Arab countries' increasing awareness of the danger posed to them by climate change and resource depletion.
[28] See, for example, http://bikyamasr.com/wordpress/?p=10010.
[29] North African countries represented included Egypt, Morocco, Tunisia, and Mauritania. Middle eastern countries represented included Iraq, Lebanon, Syria, Yemen, and Saudi Arabia. See : http://www.fao.org/fileadmin/templates/rome2007 initiative/NENA_Forum_2009/Documents/NENA_Forum2009__Participants_list.pdf

V. Broad Agenda for Regional Integration in the Climate Change and Environment Sector

There is a significant level of activity and enhanced capacity at the national project level in the North African countries on climate change and the environment. Such projects represent an indicator of national technical/institutional capacity upon which regional integration efforts can build. However, the agenda for regional integration in the climate change and environment sector is dictated by the several factors. These include the current level of national technical/institutional capacity, established priorities for mitigation/adaptation activities, financing constraints, technology transfer trends, and the regional/national nature of future climate change challenges. For adaptation, as of 2010 there were a total of 154 past and current projects in the area of climate change adaptation not including Mauritania. These projects span the full range of hazards (i.e., floods, drought, and erosion) and vulnerable sectors identified earlier including coastal zones, water resources, public health, drought early warning, biodiversity, agriculture, and forests.

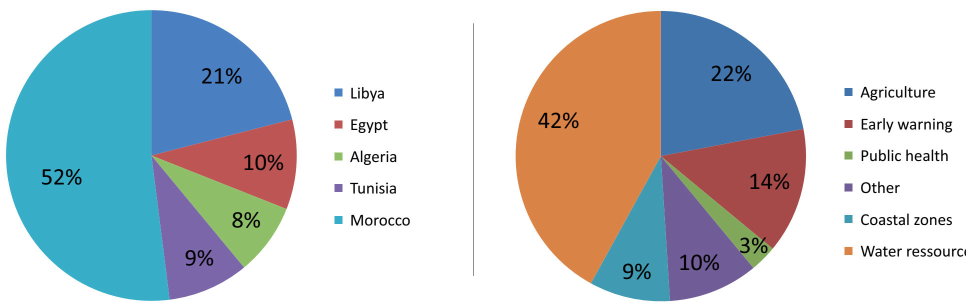
The geographic distribution and topical breadth of projects suggest a strong capacity basis upon which to design strategic Bank interventions along key vulnerable sectors in the region. A summary by country and adaptation project type is illustrated in Figure 2. The majority of projects are taking place in Morocco (52%), followed by Libya (21%), Egypt (10%), Tunisia (9%) and Algeria (8%). Not surprisingly, water resource projects are dominant (42% of all projects), followed by agriculture (22%) and early warning systems (14%).

For GHG mitigation projects, as of 2010 there were a total of 116 past and current projects conducted at the national level, not including Mauritania (for which no data is available) and Libya (which was not engaged in such projects).

A summary by country and project type is illustrated in Figure 3. The majority of projects are taking place in Morocco (51%), followed by Tunisia (27%), Egypt (19%) and Algeria (3%). Not surprisingly, renewable energy projects are dominant (36% of all projects), followed by supply/demand efficiency improvements (22%), industrial process improvements (21%) and other projects to reduce GHG emissions in a variety of activities (21% for landfills, waste management, forestry, and agriculture). As with adaptation, there is a strong basis upon which to design strategic Bank interventions in the area of mitigation.

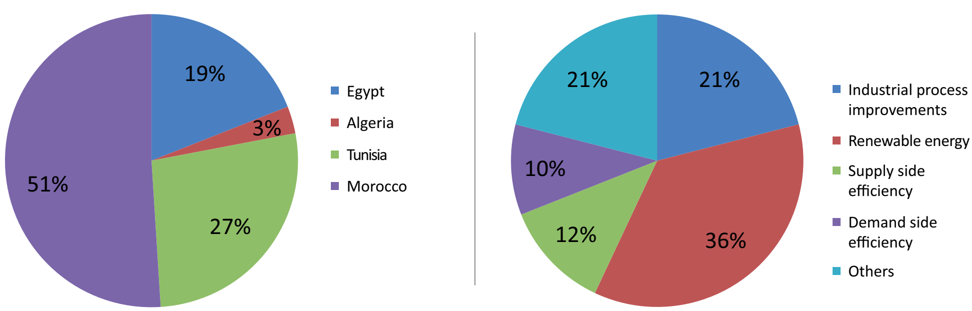
There are at least four major items to address in promoting regional integration in climate change and the environment in North Africa. A key starting point is to establish a vision for regional integration in North Africa that both conforms to cultural/political realities yet seeks to exploit points of strategic leverage that the climate change and environment sector affords. A regional integration vision that focuses in the near-term on consensus regional collaboration activities and in the mid-to long-term works toward harmonization of standards and performance targets across the region seems a viable vision for the region in this sector. Secondly, disaster risk reduction is a type of first-response effort to adapting to climate change and should beconsidered a priority for intervention. It is already the subject of several projects in the region. Building regional capacities (knowledge, tools, and methods) for the development of integrated approaches and coordinated implementation of national disaster risk reduction and climate change adaptation interventions can be a strategic next step, in collaboration with multilateral organizations such as the Global Facility for Disaster Risk Reduction and Recovery (GFDRR) serves.

Figure 2. Distribution of Country-Level Adaptation Projects by Country and Type



Source: OSS and UNEP, 2010. Desktop Study of the North African Sub-Regional Climate Change Programmes.

Figure 3. Distribution of Country-Level Mitigation Projects by Country and Type



Source: OSS and UNEP, 2010. Desktop Study of the North African Sub-Regional Climate Change Programmes.

There is substantial national capacity in the region which can be relied upon to develop adaptation strategies that account for regional aspirations and interactions. The next generation of capacity strengthening should focus on enhancing regional expertise and capacity to manage the spectrum of climate change and development linkages, strengthening region-level capacity to access finance for adaptive management activities, developing regional training programs on climate change (including gender/climate linkages), developing region-wide decision-making guides and/or investment screening methods to address climate change risks in vulnerable sectors, developing regional policies, plans and programs to incorporate climate change risks, and accelerating the uptake of renewable energy and energy efficiency throughout national economies. Finally, the need for improved regional infrastructure for clean energy delivery is a potentially key area for regional cooperation, and provides an opportunity for collaboration to proceed along project-driven lines provided adequate funding can be found. There are several multilateral funding sources for climate change activities including the Special Climate Change Fund (SCCF), the Least Developed Countries Fund (LDCF), Strategic Climate Fund (SCF), the Clean Technology Fund (CTF), and the Adaptation Fund that could be accessed to support investments in clean energy and adaptation infrastructure. Experience in other regions (i.e., SADC for infrastructure, ECOWAS for transportation and communications) suggests there may be some good models to consider for regional cooperation for major infrastructure investments.

The development of regional carbon markets may offer opportunities in North Africa to promote regional integration. There are several examples of such carbon markets including the European Union's Emissions Trading System, the United Kingdom's Emissions Trading System, New Zealand's Emissions Trading Scheme, the Regional Greenhouse Gas Initiative in the northeastern region of the US, and the Western Climate Initiative in the western US. North African governments could benefit from their proximity to the EU to promote engagement on relevant questions on the design, compatibility and potential linkage of North African countries to the EU regional carbon market, particularly relative to the value of future from renewable energy (i.e., zero-carbon) electricity exports to the EU.

VI. Involvement of Major Partners in Regional Integration

In the broader MENA region, the World Bank is working on broader regional economic integration issues as well as climate change adaptation and GHG mitigation initiatives. Regarding regional integration, the WB has been working to promote integration through trade capital, and labor flows, together with a harmonization of policies and development of physical infrastructure. Regarding climate change, the WB has developed a business plan that emphasizes a regional strategy. For adaptation, areas of focus include agriculture, water, urban areas, transport, and cross cutting issues. For mitigation, the focus is on energy, urban development, transport, and cross-cutting issues.

The Food and Agriculture Organization (FAO) is focused exclusively on adaptation activities relative to the vulnerability of agriculture and water resources. They have extensive links in the region with Arab regional organizations, national ministries, and multilateral development partners. In November of 2009, the FAO convened the Near East and North Africa Climate Change Forum that brought together about 100 analysts from a range of organizations to review regional initiatives and develop a roadmap for future regional activities.

There are several key climate change initiatives being implemented by the United Nations Development Program (UNDP). The Africa Adaptation Program was launched in 2008 to help 21 countries in Africa, two of which are in North Africa (Morocco, Tunisia), to develop their capability to design and implement holistic climate adaptation and disaster risk reduction programs that are aligned with national development priorities. The UNDP also manages the Adaptation Learning Mechanism (ALM) a global knowledge sharing platform that maps good practices, providing information, building knowledge and networks on climate change adaptation. The UNDP also is the implementing agency for the preparation of Second National Communications for Egypt, Morocco, Algeria, and Tunisia.

In the climate change area, the United Nations Environment Program (UNEP) focuses on the development of better local climate data and its use in determining possible impacts of long-term climate change and short-term increased variability. It has contributed to improving scientific methods/tools to assess vulnerability to climate change impacts and adaptation needs. In North Africa, UNEP, in cooperation with the African Ministerial Conference on the Environment, organized the Consultative Meeting on Draft Framework of North Africa Climate Change Programs in Nairobi in March 2010 in which a draft framework for regional adaptation activities was presented and discussed. UNEP is also the implementing agency for the preparation of Second National Communications for Mauritania.

The Global Environment Facility (GEF) supports projects to reduce GHG emissions in the areas of renewable energy; energy efficiency; sustainable transport; and management of land use, land-use change, and forestry (LULUCF). The AfDB is a GEF implementing agencies. The GEF also supports projects to help developing countries become climate-resilient by promoting both immediate and longer-term adaptation measures in development policies, plans, programs, projects, and actions. It is the financial mechanism of the UNFCCC, and disburses hundreds of millions of dollars per year in climate change projects (i.e., energy efficiency, renewable energy, sustainable urban transport and sustainable management of land use, land-use change, and forestry) It also manages two separate, adaptation-focused Funds under the UNFCCC — the Least Developed Countries Fund (LDCF) and the Special Climate

Change Fund (SCCF), which mobilize funding specifically earmarked for activities related to adaptation, and the latter also to technology trasfer.

Given the above profile of activities, there are several areas where the AfDB could bring added value as follows:

- **Drought early warning systems: This is a potentially strategic area of bank involvement.** At present, there is an EU-funded early warning regional project. There are several additional dimensions that could be considered with an early warning system framework (e.g., wildfires, flash flooding, and storm surges). The World Bank is also working on a programme in Morocco, as well as a pilot study to explore synergies between adaptation and disaster risk management in five MENA cities, of which Alexandria is included.

- **Water resource management systems:** This is another potentially strategic area of bank involvement in collaboration with other partners. The World Bank through the Global Environment Fund (GEF) and USAID is funding NASA to install Water Information System Platforms throughout the Middle East and North Africa region. Centers are located in Tunisia, Morocco and Egypt for country and regional (basin) use.

- **Capacity strengthening:** While there are many ongoing initiatives in the region to build capacity, the AfDB could carve out a niche within these activities to help create enabling environments for greater penetrations of renewable energy and energy efficiency, as well as introducing energy demand management and emission reduction in the transport sector.

- **Partnership building:** This would involve an effort to find areas of common ground with the range of multilateral (e.g., World Bank, UNDP, UNEP, FAO, WHO, WMO, UNFCCC Secretariat) and bilateral (e.g, DGIS, DFiD, USAID, SIDA, CIDA) organizations that are involved in climate change and environment strategies and programs in North Africa.[30] The AfDB could bring value-added to knowledge-oriented, joint training/technical support activities for GHG mitigation. For adaptation, the AfDB should develop/strengthen links in North Africa with the Climate for Development in Africa Program (ClimDev) and exploit opportunities to strengthen South-South ties.

- **Gender and climate change issues:** None of the current regional cooperation activities has a strong component for gender and climate change issues. The AfDB could focus on capacity

[30] For a general summary of partnerships and programmes from the Africa Partnership Foirum, see for example http://www.africapartnershipforum.org/dataoecd/57/7/38897900.pdf

building and advocacy activities that focus on supporting gender equality and women's empowerment through activities that facilitate women's equal participation in the identification of local adaptation priorities, with a view to promoting synergies in relation to the achievement of the MDGs.

- **Enabling environments:** North Africa is a region experiencing high population growth and increasing energy intensity. The AfDB could work to support the development of national enabling environments (i.e., policy reform) so that incremental power needs are met in the mid- to long-term by either clean resources on the supply side or energy efficiency on the demand side. This would affect the provision of new loans, guarantees, or equity to upgrade existing power production facilities or expand transmission and distribution networks.

VII. AfDV's Ongoing & Previous Involvement in the Sector and Lessons of Experience

The North Africa region figures prominently in current Bank loans and grants for overall activities. Loan and grant approvals for the sub region amounted to UA 1.05 billion in 2009, an increase of 28% over 2008 levels and representing 14% percent of total Bank Group approvals in 2009. These levels make the North Africa region the third-ranking recipient of the 5 sub-regions in Africa. Most of the AfDB's major projects in the region are for infrastructure projects that are only indirectly linked to climate change. Approved projects in 2009 included the Third Airport Project in Morocco, the Enfidha Airport Project in Tunisia, the Electricity Distribution Networks Rehabilitation and Restructuring Project in Tunisia, and the Gabal-El-Asfar Wastewater Treatment Plant in Egypt. In Mauritania, there was one major non-infrastructure project (i.e., SNIM Expansion Project Guelb II in Mauritania). For 2011 and 2012; however the Bank's infrastructure operations are expected to shift significantly towards climate change mitigation activities such as solar and wind energy generation capacity built-up.

In response to the specific climate change challenge, the AfDB has developed several major strategies in the past few years. On the adaptation side, the Climate Risk Management and Adaptation (CRMA) strategy addressed the looming impacts associated with climate change through climate proofing; policy, legal and regulatory reforms; and knowledge generation and capacity building. The overall goal of the strategy is to ensure progress towards eradication of poverty and contribute to sustainable improvement in people's livelihoods. Its key objectives are to reduce vulnerability to climate variability, promote climate resilience, build capacity, and ensure sustainability and gender equality.

On the GHG mitigation side, the Clean Energy Investment Framework (CEIF) addressed the expansion of energy access for Africa particularly for the poor while promoting shifts in energy investments to favor low-carbon development paths. The overall goal of the framework is to eradicate absolute poverty in all African countries and sustain steadily improving living conditions for the population at large. Its key objectives are to reduce energy poverty, promote reliable, competitively priced energy supplies, support world energy security, and achieve GHG reductions. To operationalize the adaptation and mitigation strategies within the Bank's regular operations, the Bank began the process of developing a Climate Change Action Plan in 2009. The Action Plan is still under development. At present, the AfDB is in the initial stages of tackling climate change and environment issues and its relevant strategies are in the process of being integrated into overall operations. A key project underway in North Africa is the Ain Beni Mathar Integrated Solar Thermal Combined Cycle Power Station in Morocco. This is the AfDB's first experience in solar power and it is partnering with the GEF and Morocco's National Electric Authority, ONE. It is financing approximately two-thirds of the cost of the plant, or about 187.85 million Euros.

The AfDB has two major comparative advantages relative to other multilateral partners working in the North Africa region. First, the AfDB supports investment projects at the country level and has the ability to incorporate capacity building and technical assistance into such projects. Second, the AfDB, as a regional development bank, has strong links with national and regional organizations throughout North Africa. Ideally, the AfDB should focus its involvement in climate change and environment activities within these comparative advantages. In specific cases of regional initiatives that include components where the Bank's expertise and experience is either lacking or weak, partnerships with other partnering Agencies should be established with clear complementary roles.

VIII. Conclusion: Potential Areas of AfDB Involvement in Climate Change Regional Integration Activities

The Bank can play a critical role in helping the North African countries overcome the obstacles to integration in the climate change and environment sector. Relative to adaptation, integration in this sector is being driven by IPCC projections for an even hotter and drier regional climate, the high vulnerability of the region's resources and natural systems to such changes, and the lack of holistic plans/actions to prepare and adapt to a changed climate. However, regional integration faces a number of challenges common to other regions and countries. Several multilateral and bilateral entities are involved in climate change adaptation integration in the region, largely through supporting research agendas, regional capacity building initiatives and national disaster preparedness projects. To complement the work of other Bank partners, it is recommended that the Bank focus its involvement in three areas: information systems enhancement/development, risk management, and institution building. Each is described in the subsections below in the recommended order of priority.

Marine and terrestrial observation systems could be enhanced in response to the direct and indirect effects of climate change. For coastal areas, climate change will lead to higher sea levels, increased sea surface temperatures, and changes in wave dynamics. Given the high concentration of population and industrial activity in coastal zones across the region, climate change-induced sea level rise will adversely affect existing and new infrastructure, valuable coastal ecosystems, and planned development. Unless accounted for in future adaptation planning and measures, the economic damages from sea level rise could be unacceptably high for the region. Under climate change, managing resources in marine areas will become more important than ever and will require accurate information from integrated observation systems to allow for detection and prediction of the causes and consequences of changes in marine systems and adjacent infrastructure investments. For terrestrial systems, climate change may cause shifts in the basic ecological characteristics upon which dryland ecosystems rely. Climate change increases the risk of pushing dryland ecosystems and oasis systems to critical tipping points where small changes could produce disproportionately large responses, even ecosystem collapse. Thresholds can be crossed by changing rainfall patterns, temperature, nutrients, or increasing human pressures, such as over-harvesting. Many bio-diverse areas of North Africa are already at risk from reductions in biodiversity, implying the potential for key ecological niches to be unfilled and for ecosystems to become unstable. A shift towards more arid soils in semi-arid grasslands and scrublands would render it increasingly difficult for even highly drought-adapted plants to survive along desert margins. As plant systems fail, overwintering and stopover migrant birds risk losing some elements of their food source, which will in turn affect their reproductive success. Enhancing marine and terrestrial observation systems will strengthen existing observation systems and contribute to a better understanding of the pace of emerging impacts from climate change. It will involve comprehensive surveillance, monitoring, documentation, and dissemination of information regarding water resources, terrestrial systems, and rates of change. Surveillance equipment would need to be installed in sensitive terrestrial systems as well as where public–private infrastructure is potentially vulnerable to small increases in sea level. Moreover, long-term marine and terrestrial monitoring aspects will need to be incorporated into existing protocols, and observation activities.

A better understanding of the potential food security risks on the region's economy and population is essential. Climate change will affect all four dimensions of food security: food availability, food accessibility, food utilization and food systems stability. By extension, climate change will also have an impact on human health, livelihood assets, food production and distribution channels, as well as changing purchasing power and market flows. Its impacts in the region will be both short term, resulting from more frequent and more intense extreme weather events, and long term, caused by changing temperatures and precipitation patterns. As noted in many of the region's National Communications, grain yields are projected to decrease under many climate change scenarios, diminishing food security. A recommended project idea is a comprehensive study on local food security vulnerability to climate change. This would involve the integration of long-term climate forecasts with crop simulation models to explore the range of expected outcomes regarding agricultural productivity and food security. This information would contribute to the development of information systems that focus on the impacts of climate variability and change on agricultural production, available technologies for reducing impacts, assessment of people's needs, and awareness-raising of the different stakeholders, including policy makers about food security risks.

The Bank should also support efforts to increase in the capacity to integrate sea level rise risks into current coastal zone planning frameworks. Coastal areas in the region would be extensively inundated due to sea level rise under the IPCC's worst case scenarios. All coastal cities will experience progressively increasing inundation, as current shorelines migrate inland substantially. Given the uncertainty inherent in the IPCC sea level rise scenarios, win-win strategies are preferred rather than near-term capital-intensive investments in coastal protection. Specifically, planning and design strategies that are consistent with reducing the risks associated with long-term sea level rise and enhance the amenity and stability of coastal zones is needed. Achieving this objective requires the systematic use of integrated coastal zone management throughout the region to evaluate shoreline development. This planning framework aims to increase the adaptive capacity and preparedness of coastal areas to respond to the threat of sea level rise within the context of an integrated approach to land use planning. Projects under this policy action would support, for example, creation of ecological buffer zones, planning/building of key infrastructure, establishing protected inland zones, technology transfer, and establishing protected research reserves to improve understanding of how higher seas will impact ecosystems increasingly bordered by man-made infrastructure.

Day-to-day electric system operations and practices are potentially inadequate under climate and will need to be adapted to support EU-integration and avoid costs and service interruptions. Currently, the impacts of climate change on the national/regional electricity and water production infrastructure potentially at risk from changes in weather and climate has not been assessed in North Africa. Adaptation in the power and water supply sector will require the use of improved long term weather forecasts, improved analysis of weather histories, monitoring key natural resource conditions, designing generation and transmission infrastructure for extreme weather events, and adjusting planning assumptions for new and existing power plants in terms of combustion efficiencies and cooling water supply (elevated cooling water temperatures lead to plant deratings, affecting cost and performance). Moreover, achieving steep reductions in energy demand and improvement in plant efficiencies will depend upon electric system planning that accounts and effectively incorporates climate change into planning protocols, demand forecast modeling, system reliability safeguards, and contingency planning. Integrating climate change risks into business and operational plans will help to temper adverse financial and operational performance impacts, reduce the probability of unacceptably higher operating and capital expenditures, and promote adaptive management in electric and water system planning.

The Bank should support the development of a regional adaptation action plan that enjoys support from key stakeholders in North African countries and which addresses the range of institutional, administrative, and communication issues associated with the implementation of the plan. There are at least three key stages to the development of an action plan. First, a regional adaptation strategy should be formulated through a transparent, stakeholder-driven process involving all countries in the region. Such a strategy, once it has been vetted by national stakeholders in government, civil society, and the private sector, and offered for comment to the general public can be considered a guiding conceptual blueprint for how the region intends to proceed regarding adaptation to climate change. Among other elements, the strategy should specific the role for education and research for meeting climate change and environment objectives. Second, the strategy should be translated into national Action Plans which define national institutional roles and responsibilities, allocate resources, and establish a timeframe for activities. A key aspect in developing national action plans is the need to establish priorities subject to stakeholder perspectives. Third, the action plan will need to be implemented. This exercise in institution building mirrors the conceptual approach adopted by the UE is the development of the EU adaptation strategy.[31]

[31] For a description of the EU process for the development of an adaptation action, see the EU Climate Action website http://ec.europa.eu/clima/policies/brief/eu/index_en.htm which provides links to the adaptation strategy paper among other documents.

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2.3 Financial Sector

Jian Zhang

This note aims at highlighting challenges and opportunities for closer cooperation and integration on financial sector across North Africa. Section one summarizes lessons from the experience with financial integration in Africa, Asia, and Europe followed by an assessment of North African countries' financial reforms and status in section two. Section three reviews financial sector operations by the Bank and development partners. Section four proposes a strategy for the Bank's support of financial sector development in North Africa. Section five concludes with recommendations.

I. The Global Context

Initiatives to promote financial integration in other countries can provide useful insights for North Africa. The experience of the European Union (EU), East Asia, and Sub-Saharan Africa underline two important lessons. First, policies to promote financial integration can contribute to regional trade and development. However, they cannot, on their own, overcome significant barriers to intra-regional economic activity. And second, the depth of financial integration has to be consistent with the strength of institutions and the political commitment to integration. Otherwise, financial integration can generate instability and impair development.

The European Union

The EU has achieved considerable progress in moving towards a fully-integrated regional financial market. The EU Financial Services Action Plan and the Lamfalussy process[32] seek to establish a common regulatory framework for financial service providers and securities markets and move towards convergence in supervisory practices. Progress in establishing a fully-integrated EU financial market has generated substantial benefits through supporting the achievement of price stability and low interest rates (ECB, 2009), enhancing the smooth and effective transmission of monetary policy throughout the euro area, helping to safeguard financial stability, facilitating

[32] The Lamfalussy Process is an approach to the development of financial service industry regulations used by the European Union. The Lamfalussy Process is intended to provide several benefits over traditional lawmaking, including more-consistent interpretation, convergence in national supervisory practices.

the rapid increase of trade and cross-border capital movements, and contributing to convergence within the region.

Despite the real achievements of the EU's financial sector policies, an important lesson is that financial integration may have exceeded the political commitment to integration and the ability of regional institutions to cope. The establishment of a single currency and monetary policy without adequate mechanisms for the coordination of fiscal policy has engineered a dramatic crisis that threatens regional unity. It is clear that the long-term survival of the euro will depend on the establishment of strong institutions that can impose changes in fiscal policy on the governments of member nations. Establishing such institutions will require, in turn, increased political commitment to regional unity. While North African countries are not in a position to adopt EU policies towards financial policies or a single currency, the dramatic illustration of how a lack of political commitment can undermine integration is a useful warning against proceeding too quickly towards deep integration.

East Asia

The experience of the East Asian crisis underlines the risks of financial integration in developing countries, although in the context of integration with the global economy rather than within a region. Prior to the 1997-1998 crisis, many East Asian countries had undertaken unilateral programs to reduce trade barriers, open to foreign investment, and dismantle capital controls. These steps generated considerable integration in trade and capital flows, both within the region and with the rest of the world. While considerable debate remains over how to apportion blame for the crisis among flawed exchange rate policies, herd behavior by foreign investors, underdeveloped financial and legal systems, nontransparent corporate governance, and policy mistakes by international institutions, it is clear that many countries were not adequately prepared for the removal of capital controls. The 1997-98 crisis generated huge reductions in asset prices, a precipitous rise in debt levels (particularly denominated in foreign currency owing to exchange rate collapses), severe declines in output, and sharp increases in poverty. By contrast, China and India pursued trade liberalization and an opening to FDI while maintaining controls on many other capital movements, and were relatively untouched by the crisis.

Interestingly, the East Asian financial crisis stimulated regional financial sector cooperation efforts, including the Chiang-Mai Initiative (pooling of part of external reserves), the establishment of the Asian Bond Market, formal mechanisms for regional surveillance, and the Asian Cooperative Dialogue (ACD). Currently, steps are underway to link other countries of Asia to ASEAN, and a lively debate is taking place in academic and policy corridors on whether and how quickly, Asia should proceed to accomplish monetary union in the context of a common market and Asian Community (Shanmugaratnam, 2006). However, it will take considerable time before the measures now being undertaken lead to substantial financial integration within Asia.

Sub Saharan Africa

Efforts to promote financial integration are limited in Sub Saharan Africa. The experiences of the Common Market for Eastern and Southern Africa (COMESA) and the Economic and Monetary Community of Central Africa (CEMAC) show the limits of efforts to promote financial integration in the face of severe constraints on regional economic activity. COMESA, initially established as a Preferential Trade Area (PTA), transformed into a partial Free Trade Area (FTA) in October 2000. In conjunction with the establishment of the FTA, in 2003 the COMESA Council of Ministers adopted a framework and an action plan for harmonizing bank supervision and regulation, emphasizing that all member states should adopt the Basel Core Principles (BCPs), and issued another report on Effective Harmonization of Financial System Development and Stability in 2007. Guided by this report, COMESA countries have made uneven progress in modernizing national financial systems.

These efforts towards regional financial integration in COMESA have been accompanied by a spectacular 17.7 percent annual rise in intra-regional trade over the past eight years. Nevertheless, trade within the region is only 10 percent of total regional trade, due to inadequate regional infrastructure that have kept transport costs high. Thus regional initiatives have had only an uneven impact on promoting financial integration and have played little role in promoting development due to severe constraints on trade.

By contrast, CEMAC countries are highly integrated in some aspects of their financial systems, sharing a common currency (the CFA franc) and central bank (BEAC). However, the financial system of CEMAC is still relatively underdeveloped, insufficiently diversified, and largely dominated by the banking sector, which holds over 85 percent of financial assets and liabilities. The non-bank financial sector is very small and operates almost exclusively at a national level. The banking system is also unevenly distributed among member states, with nearly one-third of banks located in Cameroon, and another half in three other countries. It is also dominated by foreign banks, which control two-thirds of bank assets. Only a few financial conglomerates and groups handle the bulk of region's financial transactions.

Regional financial integration in CEMAC has contributed little to promoting regional trade. Among existing regional integration schemes, CEMAC displays the lowest intraregional trade share with less than 2% of total trade during the period 2003-2006 (UNCTAD, 2007), with only limited improvement since, despite a high common external tariff.[33]

Implications for North Africa

The experiences of the EU, East Asia and Sub-Saharan Africa have interesting implications for North Africa. Regional financial integration can make a positive contribution to real sector integration and growth, at least in the context of the developed countries of Europe. However, the CEMAC and COMESA experiences indicate that financial integration in the context of shallow financial markets and severe constraints on economic activity may make little contribution to regional trade and development. North Africa is somewhere between the extremes of Sub-Saharan Africa and Europe in terms of both income and bottlenecks to economic activity, so there is some limited promise that steps towards financial integration would be productive. The EU and the East Asian experiences argue for a gradual approach to financial integration in North Africa, both to build the political commitment required for successful integration and to ensure that institutions can cope with the instability that can be generated by the opening of financial markets.

II. Assessment of North African Financial Sectors

North African countries have made progress in reforming their financial sectors over the past few decades. Morocco and Tunisia initiated financial reforms in the first half of 1990s, Algeria and Mauritania in the second half, and Egypt and Libya in the first years of the new millennium. These initial reforms focused on the liberalization of interest rates and removal of quantitative restrictions, the lifting of barriers to entry (including both domestic private sectors and foreign financial institutions) and exit (nearly bankrupt state-own banks), and the privatization of inefficiently managed state-owned banks.

These reforms, however, failed to adequately deal with structural and institutional issues in the North African financial sectors. Therefore, the second phase of the North African financial sector reforms focused on strengthening financial infrastructure, especially the frameworks for

[33] For example, the Central African Republic's average applied tariff is 18.2 percent, in part because of COMESA's high common external tariff and in part because under a derogation to the community's free trade arrangement it treats imports of selected products from CEMAC partners as originating outside the sub-region (IMF Country Report, 2009).

contract enforcement, payment systems, and reporting standards (accounting, recording and auditing standards that meet international requirements), the supervisory capacity of the banking system, and central bank independence. Reform programs have also emphasized supporting private sector development, improving corporate governance (e.g. enhanced transparency and accountability, improved information and disclosures requirements, and investor education) and strengthening the institutions that support finance (commercial courts, collateral registries and credit reference bureaus).

Assessment by Country

Morocco has the region's largest financial system (measured either by credit or broad money) relative to GDP. Key elements of the reform process included the elimination of quantitative ceilings on credit, removal of restrictions on interest rates, the introduction of market-based instruments of monetary policy, and the development of capital markets. Efforts to strengthen banking supervision and enhance the legal and regulatory framework have contributed to the soundness of financial intermediaries, and the ongoing global financial crisis has not had much impact on the financial sector.

Tunisia's financial system ranks second in terms of depth in the AMU region. By 1996, deposit and lending rates had been liberalized. Its recent financial sector reform has focused on improving governance and strengthening the regulatory framework. Through banking consolidation, the ratio of nonperforming loans to total loans fell to 15.5% in 2008 from 24.2% in 2003. The Tunisian financial sector was not directly affected by the global financial crisis due partially to the enhanced financial infrastructure and institutions (IMF, 2010).

The financial sectors in Libya and Algeria are less developed. Prior to the conflict, the Libyan authorities have started to reform the predominantly state-owned financial system, stepped up efforts to improve banking supervision and arrange workouts of nonperforming loans, and issued new guidelines on bank risk management. An asset management company to deal with bad loans has been established, capital requirements are being raised, and smaller banks are being encouraged to seek well-established foreign strategic partners. However, nonperforming loans equaled about 20 percent of total loans, second highest in the region (see Table 1).

Algeria is only little better than Libya. The government has taken steps to modernize its financial system in recent years. With the enhanced regulatory framework, some troubled public banks are either under consolidation or privatization. Financial soundness indicators improved in 2008, but the level of nonperforming loans remained high. The loans requiring 100 percent provisioning fell from 22 percent in 2007 to 18 percent in 2008, due to continued government purchase of nonperforming loans for state-owned enterprises (SOEs). However, access to financial services remains limited and costly.

Table 1. Commercial Banks Soundness Indicators in North Africa & Other Regions, 2008 (percentage)

Country	Capital Adequacy	NPLs to Gross Loans	Provisioning to NPLs	Return on Total Assets (ROA)	Return on Total Equity (ROE)
Mauritania	22.2	34.0	Na.	Na.	Na.
Libya*	16.2	20.2	40.5	1.3	32.9
Algeria	17.0	18.0	62.0	Na.	25
Egypt	14,7	14.8	92.1	0.8	14.1
Tunisia	11.7	15.7	56.8	1.0	11.2
Morocco	11.2	6.0	77.6	1.2	16.7
Middle East					
Kuwait	16.0	3.1	84.7	3.2	27.8
Saudi Arabia	16.0	1.4	153.3	2.3	22.7
Oman	14.7	2.4	119.3	2.3	12.8
Asia					
China	13	2.4	116.4	1.0	17.1
India	12	2.3	153.0	1.0	12.5
Singapore	14.3	1.4	119.9	1.0	11.9
Latin America					
Argentina	16.8	2.7	131.4	1.6	13.4
Brazil	18.4	3.1	189.4	1.5	15.6
Mexico	15.3	3.2	161.2	1.2	12.5
Emerging Europe					
Russia	16.8	3.8	118.4	1.8	13.3
Belarus	21.8	0.9	37.9	1.4	9.6
Slovenia	10.5	1.6	80.0	0.7	9.0

Source: IMF.

Mauritania's financial sector is small, and while not exhibiting any sign of immediate distress, makes little contribution to economic development. Banks, which dominate the financial sector, remain generally vulnerable and suffer from deficiencies in transparency standards, lack of competition, poor governance, and weak infrastructure. This significantly constrains access to credit, considered as one of the main impediments to competitiveness and growth. To support economic growth, Mauritanian financial authorities are strengthening banking consolidation with a focus on reducing the high level of nonperforming loans (about 20%).

Several reforms have been taken recently in Egypt. In 2004, the Egyptian government, in conjunction with wide-ranging structural reforms, undertook a reform of the financial sector within the context of the COMESA Financial Cooperation Program. The program involved steps to strengthen bank balance sheets and banking supervision, and the identification of weaknesses in the banking and non-bank financial sectors, including the insurance sector, the capital market, and the mortgage industry. The program has had a positive and significant impact on improving the competitiveness and efficiency of the Egyptian banking sector (Sunil, Poshakwale and Qian, 2009), as confirmed in the IMF Article IV Report of Egypt 2010. However, further progress is required, particularly reducing the ratio of nonperforming loans to total loans, now almost 15 percent, to single-digits.

Assessment of financial institutions

North African financial systems are dominated by banks,[34] whose share of total financial assets ranges from 60 percent in Morocco to about 95 percent in Egypt.[35] State-owned banks, which control over 90 percent of financial assets in Algeria and Libya, represent the greatest potential financial risks in North African countries. Their poor operational results have been driven by information deficiencies, adverse selection, moral hazard, poor governance, and inadequate internal controls.

Efforts to improve operational efficiency in North African public banks have emphasized privatization, with mixed results. In Egypt, there are 17 joint-venture banks with somewhat better operational efficiency than their state-owned counterparts, while in Mauritania banks that have been privatized (at least partially) still suffer from poor operational results. The opening to foreign banks in Morocco (26 percent of bank assets) and Tunisia (19 percent) has contributed to the performance of domestic joint-venture banks by disseminating advanced risk management techniques and technological knowledge, stimulating domestic capital formation, and improving operational efficiency and productivity.

[34] Egypt ranks first with total assets of around 120 billion dollars (with 22 banks); Morocco, second with total assets of around 96 billion dollars (with 7 banks); Algeria, third with a total of 62 billion dollars (with 7 banks); Libya, fourth a with a total of 44 billion dollars (with 4 banks) and finally Tunisia with a total of 27 billion dollars (with 9 banks).
[35] See: http://www.mfw4a.org/egypt/egypt-financial-sector-profile.html.

Microfinance institutions have complemented mainstream banks in North Africa by providing disadvantaged groups with access to financial services. In Morocco, microfinance institutions have assets of close to 500 million euro and reach some 1.5 million people. The microfinance sector is also expanding rapidly in Tunisia, but is developing slowly in other North African countries. The sector is associated with government-run social programs in Algeria, depends heavily on foreign aid in Mauritania, and has made little headway in Libya. Even in Egypt, microfinance remains underdeveloped, with only about 1.2 million beneficiaries compared to an estimated demand of 21 million people.

Capital market development is uneven in North Africa. Capital markets are relatively more advanced in Egypt, Morocco and Tunisia (Onour, 2009).[36] The Egyptian securities market is bigger in term of capitalization than those of the total five AMU countries put together. In 2007 the Cairo and Alexandria Stock Exchange capitalization equaled about 90 % of GDP and its foreign investors' equity holdings about 49% of GDP. The Moroccan stock exchange is smaller than Egypt's, but is the largest in terms of capital, number of listed firms, and value traded in the five AMU countries. Securities markets are almost nonexistent in the other North African countries.

The insurance sector is not well developed in North African countries, except for Morocco, where insurance and reinsurance institutions hold about 16 percent of total financial assets. The three largest companies dominate the industry, and non-life business generates more than 70 percent of total business. Egypt's total insurance premiums represent only about 0.8 % of GDP, and total assets amount to less than 3 % of GDP, far lower than most other middle-income countries. The four largest insurers are majority state-owned, accounting for about 70 percent of premiums.

Similarly, pension funds, mortgage finance and other non banking financial institutions are unevenly developed in North Africa. With the exception of Morocco, pension funds are at an embryonic stage. In Tunisia, the non-bank financial sector is largely represented by a number of inefficiently managed mutual funds, venture capital companies, and some pension funds. In Egypt, mortgage finance is limited by cumbersome property registration procedures, inadequate collateral enforcement, lengthy court processes, untested foreclosure procedures, and limited information on potential clients and borrowers.

[36] Onour, Ibrahim (2009) stated in his article on "Financial Integration of North Africa Stock Markets" that Egypt, Morocco, and Tunisia stock markets are characterized with a strong regulatory and institutional infrastructure, reflected in the existence of market regulators, foreign participation, and electronic trading systems. In terms of regulatory and institutional standards, Egypt and Morocco markets are maturing to international levels in terms of transparency requirements, as financial reporting in both markets is safe guarded by international custodians.

Despite progress since 2005, North Africa remains the African region that is least integrated with the global financial system, which has afforded some insulation from the financial crisis. Net private flows to all of Africa rose in every year from 2002-07, reaching a record high of $60.3 billion, but then nearly halved in 2008. By contrast, net private flows to North Africa increased slightly during the boom (net bond flows rose by less than $1 billion from 2002-07 and net flows from commercial banks were consistently a little negative) and declined only modestly in 2008. Net private flows, particularly portfolio flows, are much less sensitive to economic cycles in North Africa than in more financially-integrated South Africa, and even in the rest of Sub-Saharan Africa, owing to barriers to cross-border capital movements in North African financial systems. By contrast, openness to FDI has encouraged a steady rise in flows to North African countries, from $2.6 billion in 2002 to $14.8 billion in 2008, largely to exploit oil and mineral resources.

Overall Assessment

Progress among the six North African countries in financial sector reform has been uneven. Financial policies in Egypt, Morocco, and Tunisia are converging with international best practices, and there are signs of increasing integration with global financial markets. Financial policy harmonization and convergence have contributed to achieving macroeconomic stability. By contrast, Algeria, Libya and Mauritania have lagged behind.

Key institutional achievements at the regional level include the creation of a Maghreb Investment Bank and a Union of Central Banks (AMU Secretariat and Bank Al-Maghrib, AfDB Donor Workshop, December 2009), the creation of private sector funds for financing regional operations in several AMU countries, and the design of regional payment systems. Nevertheless, regional financial integration remains weak, there is limited sharing of information between central banks and other financial supervisory bodies, and cross-border capital flows within the region are small.

The performance of most North African financial sectors demonstrates major deficiencies in facilitating market intermediation, economic growth and poverty reduction. Most of the North African countries' financial sectors remain small, fragile, inefficient and highly risky, as reflected by high NPL ratios, low provisioning ratios, and high interest rates. High interest rates have crowded out private sector enterprises and driven many qualified firms, SMEs in particularly, out of financial services. As of 2008, the average capital adequacy ratio in all North African banking systems appears to be above the minimum Basel I threshold of 8 percent. However, banks in Algeria, Libya and Mauritania are undercapitalized if non-performing loans (NPLs) are considered. While a portion of the NPLs have been provisioned against, they nevertheless appear to be constraining profitability, as shown by the relatively low return on assets in these three countries compared to Tunisia and Morocco.

Most North African countries' financial sectors do not provide adequate long-term financing to support rapid economic growth. Bank lending is still heavily geared towards the short end of the market. Other sources of long-term financial resources are mainly under-developed (capital markets) or poorly performing (the state-owned development financial institutions). The insurance sector is small with shallow market penetration. Weak financial systems are one reason that per capita GDP growth in the Maghreb (in purchasing power parity terms) has been weaker than in many other emerging market economies.

Moreover, financial access in North Africa remains extremely limited. In 2006-07, only 41 percent of the population had access to financial services, with about one bank branch for every 27,624 inhabitants – a smaller proportion than for most other countries at similar per-capita income levels. The poor and rural areas are particularly neglected. The few informal microfinance institutions have limited outreach, and many are poorly resourced and not sustainable in the medium term, while the lack of information on their financial performance exposes the poor dealing with them to high risks. Supervisory bodies have limited resources, while in many countries the legal frameworks are in a state of flux. Specific government interventions, beyond general financial reform, are urgently required to ensure that the poor have access to finance, particularly in Mauritania.

Constraints on financial integration

There are several reasons why North African countries should not rush to integrate fully into the global financial system, or even to achieve complete regional financial integration. North African banks are relatively inefficient, as their return on assets tends to be lower than other middle-income regions (Table 1). North African banks are also relatively risky, with a higher share of nonperforming loans in total loans and a lower share of nonperforming loans provisioned, than in the other regions. Even Morocco, the best performer in North Africa, is not competitive among the selected developing countries. Opening up North African financial systems will require a transitional period to strengthen banking sectors, otherwise indigenous banks could be rendered insolvent from competition with more efficient foreign branches and subsidiaries if they were given national treatment status and allowed to accept local-currency deposits from, and make loans to, retail and corporate customers.

Full regional financial integration is also premature for the financially weaker AMU countries. In Algeria, Libya and Mauritania, the indigenous commercial banks would see their profits fall as their core wholesale and retail sales customers would be attracted to the better services and more attractive rates that overseas branches and subsidiaries of Tunisian, Moroccan and Egyptian commercial banks could offer. Institutional constraints on regional financial integration also exist. Egypt is not a member of AMU, but belongs to COMESA, so it is difficult to involve Egypt in the AMU regional financial integration initiative. Libya also has multiple memberships in AMU and COMESA.

Nevertheless, there remain important steps towards regional financial integration that would benefit all of the North African countries. Useful progress would involve implementing planned regional initiatives. An agreement on payment systems, signed among five AMU central banks in 1991, has been not implemented by all the related countries. The Regional Bank for Trade and Investment, created in early 1990s, is not effectively functional. The AMU Action Plan, drafted early in the last decade, has not been implemented on account of lacking: (i) prioritization, (ii) timeframe; (iii) trade liberalization (FX control, affecting regional trade and FDI), and (iv) efficient and effective regional institutions. Last but not the least; the AMU Secretariat lacks the necessary capacity for driving regional financial integration.

III. Reviews of Financial Sector Assistance to North Africa

Lending Activities for regional financial integration

Since its establishment, the African Development Bank has been heavily involved in North Africa (72 percent of total Bank approvals from 1967-2008) and the financial sector (21 percent of total approvals, second after infrastructure's 41 percent share). The Bank has promoted financial sector development in North Africa through lines of credit (LOC), policy-based lending (PBL), budget support, and equity investments.

LOCs are designed to provide direct support to North African projects and institutions. Short-term LOCs enable North African customers to gain easy access to foreign exchange resources and credit funds, while long-term LOCs allow borrowers to extend the maturity of their debt. LOCs have enabled the Bank to indirectly and efficiently reach a larger number of North African enterprises, particularly SMEs, than would otherwise be possible. For example, in 2008, the Bank provided Mauritania Leasing and Banque pour le Commerce et l'Industrie with two lines of credit of UA 3.06 million and UA 4.09 million respectively.

PBLs have been designed to encourage policy and institutional reforms required for regional financial integration in North Africa, including the development of electronic banking, the strengthening of microfinance's capacity and the development of leasing companies.

The Bank has used budget support to help North African countries address macroeconomic imbalances and enhance fiscal governance, while some operations have touched directly on the financial sector. For example, the Bank's support for Egypt's Financial Sector Reform Program (2005- 2008) through a budget support loan of US$ 500 million helped strengthen the financial sector, resulting in more resilient and competitive bank s and non-bank financial institutions.

The Bank has used instruments such as guarantees, equity and quasi-equity investment, and agency lines to support further development of microfinance in North African countries. One typical example of related assistance operations is the "Second Maghreb Private Equity Fund", which primarily targets SMEs in Tunisia, Morocco, Algeria, and Libya. The Fund's objective is to invest in a wide variety of sectors including financial services and independent power production units.

Non-Lending Activities for regional financial integration

Like Sub-Saharan Africa, North Africa lacks technical skills required for regional financial integration, particularly in the areas of land registration, capital and money markets, asset/liability management, legal institutions, banking supervision, and payments systems. Examples of Bank technical assistance to North African countries include an Institutional Savings Development Program to Morocco's government for policy advice (1998-2003) and support for institutional strengthening to Morocco's Caisse Nationale des Organismes de Prevoyance Sociale (2006-2009).

Strong economic and sector work is useful in formulating appropriate strategies for supporting North African countries. For example, in 2008-2009 the Bank conducted a regional financial integration study on AMU countries. However, the Bank has not devoted sufficient staff time and resources to this work and the benefits have been limited.

Focus of other Development Partners

Financial sector development is a broad area in which many development partners are involved, each with its distinctive contribution, added value and comparative advantage. No development partner is able to cover the complete array of financial sector development activities in North African countries. Given the broad scope of activities, closer coordination and harmonization among development partners has been an imperative for regional financial integration in North Africa.

Several African institutions are involved in different dimensions of financial sector development in North Africa. The African Union and Association of African Central Banks have advocated financial and monetary integration through macroeconomic convergence in Africa, including North Africa. The AMU Secretariat has been keen to promote financial integration across North African countries. UNECA has focused on rationalizing the role of government and support to North African financial integration and private sector development through policy analysis, research and technical assistance.

Development partners and institutions have focused on improving fiscal and financial sector governance in North Africa. This include the Bretton Woods Institutions, European Union, European Investment Bank, International Finance Cooperation, CDC Enterprises, Netherlands Development Finance Corporation, Swiss Investment Fund for Emerging Markets, Belgian Investment Company for Developing Countries, French Private Sector Development Bank, AVERROES Finance Company, with the IMF and the World Bank playing lead roles in their respective fields.

The IMF monitors North African countries' economic performance through annual Article IV consultations which focus on maintaining domestic and external economic stability, and through Financial Sector Assessment Programs. The World Bank has provided public finance management assistance via consultations on Medium Term Expenditure Frameworks and Public Expenditure and Financial Accountability Assessments to most North African countries. IFC has provided private sector financial services (such as microfinance, equity funds) to Tunisia, Morocco and other North African countries, as per Table 2.

Lessons Learned and Implementation Issues

The experience with donor support to North African countries has shown that regional financial integration should be an endogenous process, in which regional trade and investments gradually create sufficient demand for further increasing cross-border financial services, beginning with trade finance and export credits. If cross-border economic activities are below the long-run breakeven points for profiTable financial transactions, regional financial integration will require continuing donor subsidies and eventually will not be sustainable. In addition to adequate demand, financial integration also will require efforts to improve the soundness of financial institutions and the effectiveness of financial sector infrastructure.

Table 2. Main North African Development Partners' Assistances

	Egypt	Morocco	Mauritania	Algeria	Tunisia	Libya
IMF	IMF monitors members' economic performance through annual Article IV consultations with North African countries, focusing: (1) Maintaining domestic and external economic stability; and (2) Minimizing risks to economic stability by adjusting macroeconomic policies to most North African countries.					
World Bank	World Bank provides national public finance management assistance to North African Countries via MTEF, PEFA and so on to most North African countries.					
	1. Support Financial Sector Reform 2. Public Services Enhancement, including social insurance programs	1. Increase efficiency of public administration 2. Increase efficiency of the financial sector, and business access 3. Support Public & Private Governance	1. Improving fiscal governance and capacity building 2. Supporting Financial Sector Reform	Fiscal sustainability & hydrocarbon revenue management	1. Fiscal reform 2. Support Public & Private Financial Institutions	
IFC	IFC provides private sector financial services (such as equity funds) to Tunisia, Morocco and other North African countries.					
	1. Encouraging private investments in the financial sector 2. Providing Advisory Services on Access to Finance and Enhancement of Financial Market	1. Investing in financial institutions who relend to MSMEs 2. Providing Advisory Services on Access to Finance	No Operations	1. Developing the financial sector, including MEs 2. Providing Advisory Services on Access to Finance	1. Increasing access to finance 2. Providing Advisory Services on Access to Finance	No Operations
EU	The European Union's strategy on governance of 2006 has a broad remit, including a strong focus on promoting democracy and human rights, including gender equality, and the rights of children, indigenous peoples and ethnic minorities. The EU backs efforts to reinforce the rule of law and administration of justice; to enhance the role of civil society and non-state actors. It also helps to reform public administration, civil services and local governments. EU-funded programs contribute to fighting corruption and prevent conflict.					
	Financial Sector Reform	Public Finance Management	1. Economic governance, decentralization and modernization of administration 2. Integration	Capacity building for Microfinance	1. Financial sector restructuring; 2. Privatization of SOEs	
Others	IFAD, AFD, BEI, KfW, GIZ, DFID, USAID					

Source: Authors.

Country ownership of financial sector reform programs is a prerequisite for success. This is shown by the progress made under the Egyptian Financial Sector Reform Program, which was largely developed by the Egyptian authorities to address identified weaknesses in the banking sector, as well as developmental issues in the insurance sector, capital markets, and the mortgage industry.

Real-sector and financial-sector reform programs can be sustainable only if they are comprehensive, penetrate down to the institutional level[37], and are supported by technical assistance.[38] The Bank Competitiveness Support Program to Tunisia (AfDB, 2008) reveals that reforms ought to have been pursued to improve competition, restructure the banking sector, and improve the transparency of corporate accounts. To be successful, the introduction of the reform measures and instruments should be properly designed and sequenced, and appropriately implemented and monitored, while some kind of safety net, designed to protect the overall system and promote consumer confidence, should be established. A clear statement on the direction of reforms should be made to win support from the financial and business community.

Strengthening the legal and regulatory framework governing finance is an essential component of North African financial sector reforms. Regional financial integration in North Africa requires the adoption of regional or global financial and banking standards, such as the selective and prudent adoption of Basel II. The adoption of regional or global financial standards will enhance transparency in financial policymaking and regulation, and improve financial stability. In implementing regional financial standards, emphasis needs to be placed on introducing appropriate competition, good governance and multilateral surveillance. More broadly, regional financial integration also requires good economic and corporate governance, including effective law enforcement, the ability to enforce contracts, efficient public sector management, and lower corruption.

IV. Operational Assistance Strategy

Rationale and Guiding Principles

Studies show that financial integration is limited in North Africa. The Bank Study on regional financial integration in the AMU (AfDB, 2010) and the current report both conclude that the North African countries are far from real or financial sector integration.

[37] "Institutional development is critical to real sector and financial sector reform because without high quality technical capabilities and general institutional efficiency, resource mobilization and efficient allocation remain weak" (World Bank, OECD: op. cit).

[38] To ensure sustainability of institutions undergoing reform, attention needs to be paid to the payments system, accounting and auditing standards, collateral laws and regulations, education programs in accounting and banking, increased professionalism in banking, on-site training of staff, and improvement in the quality of banks' portfolio.

Efforts over the next five years to pave the way for financial integration, both globally and within the region, should focus on:

- Enhancing financial infrastructure by developing payment systems to reduce cross-border transaction costs, establishing rating agencies to reduce excessive credit risks, harmonizing rules and practices across the region towards a more open and sTable regime against regulatory arbitrage, promoting capital market development with incentive policies for financial sector diversification, and removing market impediments to cross-border activities by gradually lifting foreign exchange controls; and

- Strengthening financial institutions through improving the exchange of information on financial sector issues (including sharing experience on microfinance institutions), reviewing the functions and capacities of the regional and national financial institutions, promoting the necessary institutional developments, and satisfying the increasing need for technical skills.

The Bank's assistance to the financial sector must be understood in the context of overall support for each country's economic program. Thus in low-income Mauritania, the Bank should focus on building financial and fiscal institutions and strengthening capacity in macroeconomic management, debt sustainability management and aggregate fiscal and financial governance, consistent with the Bank's enhanced engagement in countries that are eligible for the HIPC and MDRI programs. Microfinance, which is critical in enhancing access to finance for the poor and supporting rehabilitation of economic activities, will be given special attention. Effective engagement will require continuous policy dialogue in the field, which will be driven by the Bank's Mauritania Field Office.

In middle-income Morocco, Tunisia, Egypt, Algeria and Libya, the Bank's approach to financial sector development should also focus on building synergy with its broader governance promotion and private sector development activities. More effort will be devoted to following up on FSAPs and the African Peer Review Mechanism to draw strategic plans to address weaknesses identified and to build long term capacity to manage programs. The Bank can use its convening power to support the formulation of financial sector development plans, in collaboration with other development partners. In cooperation with the BWIs, the Bank will provide policy-based loans to support implementation of programs to improve macroeconomic performance.

The Bank, as a regional institution, can assist governments to formulate action plans to address weaknesses in the implementation of financial governance, while also extending support to central banks, ministries of finance and independent institutions involved in the regulation of banks, non-bank financial institutions and capital markets. An important focus of the Bank's work will be to facilitate the consolidation of financial sector institutions and promote the use of international financial standards in the region.

Policy Objectives

To facilitate regional financial integration in North Africa, the Bank should target three strategic objectives: (i) establishing an efficient and effective regional and national institutional framework and related capacity for financial integration in North Africa; (ii) creating a strong enabling environment through harmonization of financial-sector policies; and (iii) promoting cross-border capital flows through gradual removal of capital account controls, more flexible exchange rate regimes and enhanced currency convertibility in North African countries.

To support three strategic objectives, five strategic outcomes are proposed: (i) measures to attract FDI inflows to financial services (for example capital injections, assistance with reducing NPLs), enhance private sector provision of cross-border financial services (cross-border private sector fund, for example),[39] and improve the efficiency of financial services (cross-border merger and acquisitions, for instance); (ii) measures to increase the presence of national financial services providers in North African financial markets;[40] (iii) support to increase the influence of North African financial services providers in the WTO negotiations on Trade in Financial Services; (iv) support for the introduction of international and regional financial codes and standards (Basel II for Morocco, Tunisia and Egypt; accounting, auditing and IMF Code of Good Practices on Fiscal Transparency for Mauritania, Algeria and Libya); and (v) establishment of a regional fiscal and financial risk early warning centre and the related surveillance framework.

[39] The Bank can scale up support to policymakers and regulatory authorities to formulate appropriate policies and regulations for the DFIs and MFIs. The Bank understands that greater reliance on markets and commercial principles can improve the sustainability of these institutions, but also that the regulation and supervision of these institutions must be handled in an innovative way, borrowing from the experience across other developing regions. The Bank can mobilize collaboration with other development partners to provide advice to the ministries of finance, central banks and other relevant regulatory authorities as well as to build regulatory and supervisory capacity at these institutions. The Bank can also leverage its governance activities and forge strategic partnerships to support policy reforms that will improve financial and investment environment for MSMEs.

[40] Regional financial integration requires not only free regional movement of banking institutions, but also free regional movement of non-banking financial institutions. In line with this logic, the Bank will encourage greater reliance on regional market mechanisms to meet the demand for long-term finance, including the setting up of regional refinancing mechanisms, regional guarantee mechanisms, political risk insurance to cover sovereign risks, and rating systems to facilitate screening of borrowing governments and multinational firms. The introduction of these regional market mechanisms would involve the collective effort of AMU Secretariat, national governments, the FIs themselves and donors (including multilateral development banks).

To achieve these outcomes the Bank should focus its support in three main areas: (i) institutional strengthening and capacity building[41] for regional (AMU Secretariat included) and national financial institutions; (ii) stimulating efficient trade in financial services through privatization and policies to encourage foreign bank participation, and strengthening financial sector infrastructure (including improving audit practices, governance and transparency), and supervision; (Ayed, 2009)[42] and (iii) promoting initiatives to strengthen regional infrastructure and trade integration, for example through providing aid for trade and the establishment of regional value chains (development corridors) in North Africa.

V. Conclusion and Recommendations

Little progress has been made in either real or financial integration across the North African region and indeed some countries are being pulled towards further integration with extra-regional partners. Egypt is moving towards the COMESA Customs Union, whereas the other countries are drawn to the AMU Free Trade Area. Regional financial integration is particularly challenging in the context of fragile and undeveloped financial systems, particularly those burdened with excessive NPLs. Like past studies (Johnston, Darbar and Echeverria, 1997; Edwards, 2001; Klein, 2005 and Loayza and Ranciere, 2006-2007), a recent study (Saidane, 2010) shows that financial integration cannot be detached from the challenges of consolidating and privatizing weak banks, obtaining the necessary human resources, and improving governance.

To compete and develop, most North African countries must further consolidate their financial sectors by improving financial infrastructure and strengthening financial institutions before launching financial integration (regional or global). Since banks account for about 85% of total financial sector assets, North African countries need to focus on banking consolidation. While reforms are essential across all North African countries, Algeria, Libya and Mauritania are likely to require a longer transition period than Tunisia, Morocco and Egypt before exposing their banks to foreign competition.

[41] To contribute to safe cross-border flows of funds , the Bank may support the establishment of regional public credit registries, property registries and will leverage its governance work and strategic partnership with other donors to support the development of the regional institutional framework, build institutional capacity and upgrade skills towards strengthening and regional enforcement of contract laws, improvement of the legal system on property rights, and collateral and land titling, which are essential pre-requisites to enhancing regional access to credit. To enhance efficiency of cross-border financial intermediation, the Bank will support regional payments system development by adopting RTGS technology and developing the regulatory frameworks to enable innovations and the application of modern technology in payments systems (such as mobile transfers).

[42] Financial Integration in Africa, BMCE Group Strategy.

Once banking consolidation is successfully on track, North African countries are encouraged to formally launch a regional financial integration initiative (Boulila, 2009),[43] focusing on: (i) promoting capital market development with incentive policies for financial sector diversification, (ii) developing regional financial infrastructure, e.g. regional payment systems, to reduce cross-border transaction costs, and regional rating agencies against excessive credit risks, (iii) managing the risks associated with greater integration (enhanced volatility and contagion), (iv) removing impediments to cross-border activities by gradually lifting foreign exchange controls and (v) harmonizing rules and practices across the region towards a more open and stable regulatory regime and avoiding regulatory arbitrage.

To support the above strategy, the Bank should focus on the regional dimensions of national operations to pave the way for regional financial integration. This will require an instrument or fund to lend to regional activities by middle-income countries, similar to what exists for low-income countries. The Bank should therefore provide technical and financial assistance to make the long-delayed Maghreb Bank for investment and trade operational as soon as possible,[44] in addition to providing support to strengthen the capacity of Regional Institutions such as the AMU Secretariat. Recommendations for Bank assistance to regional financial integration in North Africa over the next five years can be found in Table 3.

[43] Capital Mobility in North Africa.

[44] The Maghreb Bank could help strengthen the business environment, finance joint industrial and agricultural projects, and undertake initiatives to boost trade and development. The establishment of the bank will become "one of the most important mechanisms in Maghreb co-operation in the field of finance, a main pillar of boosting economic integration and achieving joint development" (Chalghoum, 2010); and an "additional base for the investment and commercial finance capabilities of the [Arab Maghreb] Union countries" (Zulaytini, 2010).

Table 3. A List of Suggested Bank RFI assistance to North Africa

Area of Assistance (Outputs)	Description of Measures (Inputs and Activities)
Engaging in Trade Finance and FDI-Related Activities	• Support the Maghreb Bank of Investment and Trade by equity participation, Line of Credit, Letters of Guarantee and Direct Loans or Syndicated Loans; • Establishing North African Trade Finance Registers in Collaboration with International Chamber of Commerce and the commercial banks that are actively engaged in trade financing in North African countries; • Participating in the ICC and AsDB' negotiation of reducing the capital adequacy requirement for trade finance lending in North Africa with the Basel Committee on Banking Supervision; • Engaging in the flagship study on facilitating trade convergence through multilateral surveillance in North African countries in collaboration with the AMU Secretariat. • Putting in place new financing instruments for trade flows among the six North African countries in collaboration with commercial banks active in trade-related activities; • Facilitating the establishing of the common investment fund and the related institutional framework to enable intra-country investments in transferable securities by regulated institutional investors, particularly insurance companies, and pension funds in North African countries.
Engaging in Trade Finance and FDI-Related Activities	• Financing the modernization of the payment system with RTGS technology in Mauritania; • Making settlement systems compatible with each other in North African countries; and • Ensuring that the technical platforms are compatible and meet international stan dards in each country in respect of: (1) trading systems for financial instruments; (2) clearing systems; and (3) settlement/delivery systems
Harmonizing banking and financial regulation and supervisory frameworks	• Strengthening the ties between North African countries' various control authorities (central banks, banking commissions and stock exchange authorities), particularly through the signing of agreements on cooperation, technical assistance, and the exchange of information; • Sharing the experiences of financial sector supervision and regulation among the six North African Countries.
Stepping up cooperation and coordination	• Stimulating the creation of banks, financial institutions, stock exchanges and other Maghreb operators in the financial sectors of the North African countries; • Considering measures to enable Maghreb companies to be listed on other Maghreb exchanges (double listing in Tunis and Morocco Stock Exchanges)
Putting in place a single portal on regulation	• Ensuring the information on this portal is exhaustive, reliable and up-to-date; • Establishing a contact point in each North African central bank to backup this operation.
Other actions	• Introducing regular meetings (at least once a year in the various capitals) between economic policymakers with the goal of sharing experiences, particularly on macroeconomic policy (monetary and budgetary policy, etc.); and • Introducing mechanisms for cooperation between central banks in relation to the exchange of information on clients of the various banks for commercial purposes.

Source: Authors.

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2.4 Transport Infrastructure and Trade Facilitation

Cristina Lozano and Ayman Osman Ali

Intra-regional trade among the Maghreb countries is one of the lowest in the world. Considerable progress has been made over the past decade in reducing tariffs and in addressing logistical bottlenecks, particularly through investing in infrastructure. Nevertheless, trade facilitation processes and procedures remain inefficient, transport infrastructure remains in many respects unsuitable, logistics and transport services are inadequate, and customs processes are slow and costly. All of these constraints have severely hampered development in North Africa, and contributed to the region's continuing dependence on primary commodities, tourisms, and workers' remittances.

There is considerable potential to improve trade facilitation and transportation through a regional approach involving customs cooperation and information exchange; harmonization and/or mutual recognition of regulations, procedures and standards; the coordination of transport infrastructure to ensure that it improves regional connectivity; and the exchange of technical information and experience in addressing bottlenecks to trade. However, regional cooperation have been hampered by the lack of a regional organization that encompasses all North African countries, integration with extra-regional partners, particularly Europe, and a lack of political commitment.

To assist the region to address the above challenges the Bank should focus its involvement in three areas; (i) logistics services, (ii) customs cooperation and harmonization and (iii) transport infrastructure. In addition, the Bank should intervene in the cross-cutting area of institutional capacity development.

I. Introduction

This note discusses the state of trade facilitation and transport infrastructure in the North Africa region (Egypt, Libya, Tunisia, Algeria, Morocco and Mauritania). The note assesses the major trends of inter-regional trade amongst the subject countries and the challenges they face in further enhancing regional integration. It also examines the state of transport infrastructure in these countries and to what extent these are assisting, or hindering, the realization of higher levels of regional integration and intra and extra-regional trade. The note concludes by identifying niche areas where Bank involvement can contribute towards achieving better regional integration in the region.

II. The Global Context

Regional integration can contribute strongly to North Africa's economic and social development, particularly in terms of: (i) opportunities to achieve economies of scale, (ii) diversification of economic production, (iii) improving intra-regional and external trade, and (iv) improvement in policies to strengthen competitiveness.

Boosting regional integration requires a multi-disciplinary approach, which would include amongst other measures the enhancement of physical connectivity, through the development of regional or sub regional infrastructure that adequately connects production zones with markets. North Africa is characterized by large surface areas and large distances between areas of natural resources and production markets and ports. Accordingly, achieving greater connectivity in the region would bring about immense potential benefits in terms of economies of scale, larger markets and greater cross-border economic transactions.

However, increased physical connectivity requires a combination of cross-border hard infrastructure and related soft measures, such as harmonization and/or mutual recognition of regulations, procedures and standards. Improvements in road infrastructure and railways can reduce transport and logistics costs but these are not sufficient to encourage cross-border trade if different legal and regulatory frameworks, inefficient systems of customs clearance and other non-physical barriers are not removed. Greater physical connectivity requires regional/sub regional cooperation for both cross-border hard infrastructure and improvements in trade facilitation; otherwise the infrastructure investments will never yield their full potential returns in international trade performance.

In this regard, the Bank's operational approach to trade and transport facilitation covers both hardware infrastructure and software related issues. Support is given towards the development, maintenance and rehabilitation of transport infrastructure. In addition, assistance is provided for the improvement of other aspects that are intangible like border procedures and regulations, customs modernization, regulation of transport services etc.

In addition, since progress has been made worldwide in terms of tariff reduction over the past two decades, policy makers have increasingly turned their attention towards regulatory and logistical impediments to trade. Trade facilitation measures need to complement trade liberalization if countries are to increase their external competitiveness and improve intra-regional and external trade. More efficient international trade procedures and customs operations can significantly reduce trade transaction costs, which results in increased volumes of trade and welfare gains. Such improvements are particularly important in developing countries, where trade facilitation services are often costly and inefficient.

Cooperative efforts by governments are important aspects of trade reforms. Indeed, the removal of the inefficient and discriminatory regulations improves customs procedures and reduces transport costs (trade facilitation). North African countries face substantial challenges in this area owing to a legacy of restrictive non-tariff measures and neglect of trade facilitation efforts.

III. Major Trends and Outstanding Issues

The North African development model

In order to accelerate trade and investment integration, countries of the region are moving from an old economic development model, driven by the public sector, supported by oil, aid and worker's remittances, to a new model which is much more reliant on market mechanisms to encourage trade and private investment.

Most governments in the region have already started to undertake this shift. Tunisia has reduced barriers to external trade and created a more hospitable investment climate. Egypt and Morocco have also taken greater steps towards trade and investment reform. Algeria started to reopen its trade regime and encourage private investment. The 2010 Arab World Competitiveness Report ranks Tunisia 32nd in the world in terms of competitiveness (out of 139) and 1st in North Africa, followed by Morocco (75th in the world), Egypt (81st), Algeria (86th) and Libya (100th). No comparable data exist for Mauritania.

Despite these policy improvements, North African economies essentially remain dependent on oil and natural resources, tourism and labor remittances. Manufactured exports are mostly labor intensive with low technological content. Export diversification in Egypt, Morocco and Tunisia is higher than in the other countries; however, even these three countries' manufactured exports are dominated by a few products (clothing, textile, leather and chemical products) and often rely on imported inputs. From 1975 to 2008, North Africa' share of global manufactured exports increased only marginally, to little more than 1% percent. By contrast, the share of Latin America and the Caribbean rose from 1.3 percent to 4.2 percent, and East Asia and the Pacific's from 1.7% to 20%.

Other developing regions have also had more success in improving their services sectors, which contributes to improved productivity in goods production and is a growing source of export revenues. By contrast, the regulatory constraints and the low efficiency levels that characterize the services sectors in North African countries are substantial impediments to trade and investment.

Intra-regional trade

Despite a number of regional free trade agreements, the level of intra-regional trade in North Africa is one of the lowest of any region in the world, for example 5% of total trade for Tunisia and 3% for Morocco. The largest bilateral trade is carried out between Libya and Tunisia, mainly composed of Tunisian food and manufactured products and of Libyan fuel. Trade flows between Algeria and Egypt are mainly composed of Egyptian exports.

The low level of intra-regional trade is due to several factors. Each country has directed its trade towards the European Union (EU). The distances between the region's capital cities are long, stretching in some cases to over 1000's km, while the distances between these cities and some European capitals are shorter. The North African countries historical ties to former European colonial masters have also contributed to current trade patterns. Most importantly, the EU is a huge market that dwarfs opportunities in the region, and offers various forms of preferential access. Even there, however, progress has been limited. The Agadir Agreement between Morocco, Tunisia, Egypt and Jordan is intended to help its members organize production sharing and take advantage of preferential access to the EU, but so far it has had little impact in increasing market shares of these countries in the EU.

There also are major policy impediments to intra-regional trade. Initiatives aimed at regional integration such as the GAFTA (Greater-Arab Free Trade Area) and the AMU (Arab Maghreb Union) have not met expectations mainly due to lack of implementation. The countries have many non-tariff and regulatory barriers in place that impede trade and investment flows. Algeria and Libya have very unpredictable environments for foreign operators, a disincentive to mutual trade and investment. In addition, the interruption of services on the Algerian -Morocco border since 1997 has been a major obstacle to the movement of goods and people in the region.

Trade facilitation

The efficient expansion of trade depends on trade facilitation. Trade not only depends on reducing tariff and non-tariff restrictions, but also on formalities in port logistics, customs clearance, and quality and safety control, all of which affect transaction costs. Improving the trade regime without addressing basic trade facilitation issues may maintain excessive costs and delays in goods shipment, thus diminishing the benefits of trade liberalization.

During the past decade, North African countries have implemented national strategies for trade facilitation and achieved uneven levels of progress. Tunisia, Morocco and Egypt were the first to implement reforms of customs procedures and trade facilitation, motivated by the needs of their export sectors and foreign investors. Algeria has also made significant efforts in this area and has an ambitious program to update transport infrastructure (nouveau schema national d'aménagement). Prior to the conflict, Libya had also included facilitation in its program of reforms, including cooperation with Tunisia on customs reform.

In customs, each country has pursued its own agenda with the aim of reducing the time spent for custom inspection. However there is only limited cooperation among the countries, for example in harmonizing customs laws, regulations, procedures and documentation to comply with relevant international conventions and best practices. Different computerized customs management systems are used by different countries. Even when the same system is used they usually do not share customs data and information, for both legal and technical reasons.

Moreover, despite progress made customs procedures remain cumbersome. The more competitive economies of the OECD have more efficient customs, as measured by the number of days required to export and import, and fewer document requirements than North African countries (Table 1). In North Africa, exporters can expect to spend an average of 23 days to complete all export formalities – 12 days more than the average in OECD economies. In many leading trading economies completing a trade transaction requires only 4 documents. In North Africa it requires 7 on average. The trading process requires frequent interactions with multiple officials and agencies rather than simple electronic submission of documents. Traders often complain about the need to make facilitation payments to get cargo cleared speedily. And a large share of traded goods is subject to physical inspection at the borders, further raising costs and delays. In many North African countries, more than 50% of goods crossing borders undergo physical inspections. In leading trading nations the share is only about 10%.

Logistics services in North Africa are poorly developed and operate in niche markets, with limitations on foreign investments in some countries. The market for critical trade-related services such as trucking, customs brokerage and container terminal services remains uncompetitive in many countries of the region, often as a result of government regulations and cartelization. The trucking market for example is essentially saturated and dominated by small, fragmented national operators. Many restrictions are also applied on the establishment and operation of the international shipment companies and freight forwards. Traders pay the price through delays, higher costs and lower quality of service. Logistics services in most North African countries are worse than in other regions of comparable income levels (see Table 2). Only Tunisia meets the average for countries in its income group.

Table 1. Indicators in North Africa Compared to other Sub-Regions

Region	EXPORT			IMPORT		
	No. of documents Required	Days Spent	Costs (US$/container)	No. of documents Required	Days Spent	Costs (US$/container)
Algeria	8	17	1,248	9	23	1,428
Egypt	6	14	737	6	15	823
Tunisia	5	15	783	7	21	858
Morocco	7	14	700	10	17	1,000
Mauritania	11	39	1,520	11	42	1,523
MENA Region	6.4	22.5	1,034.8	7.4	25.9	1,221.7
SADC	7.3	33.9	1,899.4	8.5	40.8	2,314.3
EAC	7.6	34.6	2,505.8	8.2	39.2	3,282.0
COMESA	7.4	33.7	1,979.8	8.3	39.6	2,507.0
ECCAS	8.6	43.7	2,637.8	10.0	54.3	3,061.6
ECOWAS	7.7	27.9	1,518.6	8.2	32.1	1,876.1
OECD	4.3	10.5	1,089.7	4.9	11.0	1,145.9
EU	4.5	11.8	1,038.8	5.3	12.6	1,102.7

Source: Doing Business database 2011. The World Bank.

Table 2. The Logistic Performance Ranking

Country	Global Rank	LPI	Customs	Infrastructure	International shipments	Logistics competence	Tracking & tracing	Timeliness
Algeria	130	2,36	1,97	2,06	2,7	2,24	2,26	2,81
Egypt	92	2,61	2,11	2,22	2,56	2,87	2,56	3,31
Libya	132	2,33	2,15	2,18	2,28	2,28	2,08	2,98
Mauritania	67	2,63	2,4	2,2	2,6	2,7	2,8	3,1
Morocco	94	2,38	2,2	2,33	2,75	2,13	2	2,86
Tunisia	61	2,84	2,43	2,56	3,36	2,36	2,56	3,57
Europe & Central Asia (Averg)	-	2,74	2,35	2,41	2,92	2,6	2,75	3,33
Middle East & North Africa (Averg)	-	2,6	2,33	2,36	2,65	2,53	2,46	3,22
Sub-Saharan Africa (Averg)	-	2,42	2,18	2,05	2,51	2,28	2,49	2,94
Upper middle income (averg)	-	2,82	2,49	2,54	2,86	2,71	2,89	3,36
Lower middle income (averg)	-	2,59	2,23	2,27	2,66	2,48	2,58	3,24
Low income (income averg)	-	2,43	2,19	2,06	2,54	2,25	2,47	2,98

Source: LPI 2010. The World Bank.

Infrastructure

North Africa enjoys a reasonably good level of transport infrastructure when compared to the rest of Africa (excluding South Africa). Over the years, the region has benefited from increasing levels of international assistance, and notable improvements in institutional capacities, particularly in the areas of planning and implementation. In addition, high oil revenues have enabled both Algeria and Libya to invest heavily in transport infrastructure, most of which involve links to other regional countries. Mauritania, where infrastructure is generally weak, remains an exception. Nevertheless, promoting intra-regional trade will require investments to raise infrastructure standards closer to global norms. For example road links have to be of highways standards, and rail links need to be high speed, if these two modes of transport are to play their expected role in helping to tap the potential for regional trade.

Transport can play a unique role in facilitating regional integration. The North African countries recently began to invest more in their air transport facilities, namely airports. However, important multilateral agreements, including the Arab League Open-Skies Agreement, the Yamoussoukro Decision, and an open skies agreement with the European Union need to be finalized and implemented, while further progress is required to improve services and upgrade fleets and navigation systems. The North African countries enjoy a considerable advantage in sea transport, in that most of their main ports are on the Mediterranean, which is becoming an important route for trade between Europe and USA on one side and the Middle East and Far East on the other. Overall, the maritime transport facilities and related services have witnessed considerable improvements and expansions. Many of these were supported by the region's trade patterns and agreements with Europe and the United States. Amongst the major development initiatives are the Tangier Mediterranean Port in Morocco, the planned Enfidha Deep Sea Port in Tunisia, and major improvements and expansion programs of other Mediterranean ports such as Alexandria and Damietta ports in Egypt. These ports serve extensive areas, including in other countries, due to improved road network coverage. For example, the hinterlands of Rades and Bizerte ports in Tunisia extend up to Annaba and Hassi Messaoud in Algeria.

However, the region has to invest considerably to improve logistics and transhipment capacities. The operational efficiency of the ports remains a challenge to be addressed, particularly reduces the cost of handling containers and port transit delays. Experience shows that the involvement of the private sector in the operation of ports through private-public partnership (PPP) concessions is one effective way of improving efficiency.

It is important to increase the autonomy of port regulators, particularly as competition increases between different ports on the one hand, and between maritime transport and other modes of transport on the other hand. While the latter is not significant in the North Africa region, the former may become important in a short period of time as many of the North African countries are embarking on developing their ports, most of which share the same shipment routes.

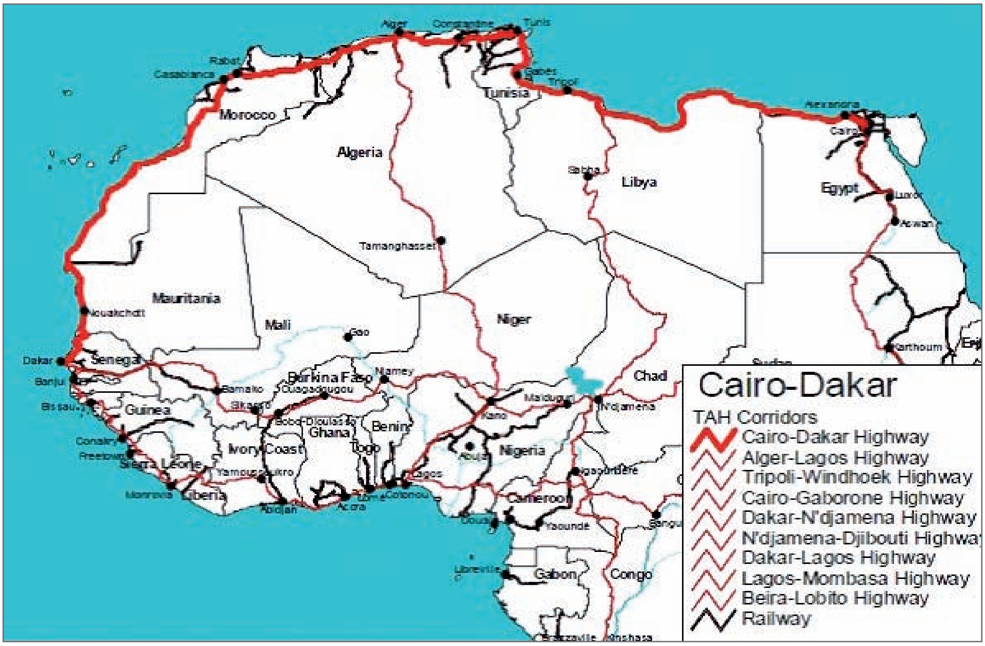
In line with the above, several measures have been taken in the region, such as the anticipated adoption of PPP concessions (whether to develop, operate, or partially operate) in Tunisia's Nfidha deep sea port, the Tangier-Med port in Morocco, and the Alexandria Sea Port. The establishment of the Alexandria Sea Port Authority as a semi-autonomous body is another successful measure that needs to be carefully assessed and replicated.

The road network in North Africa has expanded noticeably, particularly in terms of quality. Many of the countries have embarked on raising their regional axes to highway standards. North African countries are connected through road infrastructure, with the existence of some missing links. The main road axis linking the countries is the Maghreb Road (or Trans-African Highway No. 1), which stretches from Cairo in Egypt to Nouakchott in Mauritania and towards Dakar in Senegal. The Cairo-Mauritania Trans African Highway has a total length of 8075 km. It is paved, and many sections have been upgraded to highway standards.

Notable progress has been made to bridge the missing links along the Cairo – Mauritania Trans African Highway, where the link between Nouakchott and Nouadhibou in Mauritania was upgraded to bitumen standards in 2005. In Morocco, the Fez – Taza -Oujda road, now under construction, would provide a highway-standard link from Morocco towards Algeria. Similarly, Algeria and Tunisia are upgrading regional road connections to highway standards. Except in Mauritania, internal road connectivity of the North Africa countries is adequate, particularly between the main cities and both ports and regional road links.

Provision of railways infrastructure remains weak in the region, with Libya having almost no rail links. This has a significant impact on intra-regional trade facilitation. Nevertheless, ambitious programs are already underway in Algeria, Libya and Tunisia to build and improve railways. The Maghreb Heads of States agreed at the March 1991 summit held in Libya to develop the Maghreb High Speed Rail Link which would connect Casablanca in Morocco with Tripoli in Libya through Tunis and Algiers. The total journey time of the proposed service from Libya to Morocco would be 15 hours. The project is still at early stages of development.

Figure 1. Trans-African Highway no.1 from Cairo to Dakar



Source: "Review of the implementation status of the transafrican highways and the mission link" Report of the ADB and the UN. August, 2003. The map was modified by the authors.

IV. Regional Integration Dimensions and Potentials

Increasing regional integration could make a significant contribution to development in North Africa. Gravity model analysis suggests that a full-fledged free trade area among the North African countries (excluding Egypt) would almost double commercial relations within the region (DEPF, 2008). While trade agreements have substantially reduced formal trade barriers between the countries, effective integration will require improvements in trade facilitation and infrastructure. The fact that there is no institution or agency in North Africa that can deal with cross-border and regional issues results in bilateral cooperation in specific areas without an overall coordinated approach.

Increased regional integration would require improvements in: (i) logistic flows, (ii) regional technical cooperation, and (iii) transport infrastructure.

Logistics flows

Logistics performance in the region is determined by the organization, practices and services supporting trade with the EU, which do not necessarily meet the special needs regarding integration of road transport, transit and border controls within the region. Moreover, the North African countries are at different stages concerning their logistics performance and investments, particularly in the soft elements. Morocco and Tunisia have launched ambitious reforms and investments over the past 10 years while the other North African countries only recently embarked on improvements in logistics. The differences in the levels of modernization are certainly an obstacle to intra-regional coordination, but they are also a source of complementarities and cooperation opportunities. An integral approach to the facilitation and logistics implemented in Morocco and Tunisia would be desirable in Algeria and would be one of the main conditions for facilitation and regional integration for the whole of North Africa.

Regional technical cooperation

The level of cross-border cooperation between counter-part agencies in charge of trade facilitation is minimal. The heads of the technical agencies attend political forums like the Arab Maghreb Union (AMU), the Arab League and the Centre for Transportation Studies for the Western Mediterranean (CETMO). Some technical issues are addressed at the bilateral level, but only the technical administrations of Morocco and Tunisia meet regularly. Cooperation between Tunisia and Egypt is also improving.

Efforts at technical cooperation are focused on convergence with EU standards, rather than within the region. Administrative cooperation is more intense in two areas: (i) Customs, especially through the Maghreb Committee of custom; and (ii) Railways, through the Maghreb Technical Committee (Comité technique Maghrébin).

Transport infrastructure

The lack of railways links has been a major impediment to intra-regional trade. The long distances between the region's capital cities and ports imply very high costs if a high-speed rail infrastructure is to be provided. The major developments in this context were the separate announcements of the Algerian and Libyan Governments of their self-financed plans to develop their coastal high speed rail networks. This will have a major impact on the region's connectivity, particularly as the combined length of the two countries' coastlines is a substantial share of the whole region. Two recent developments, the AfDB's approved financing of Morocco's high speed rail link along the Tangier – Marrakech axis, and the AFESD's financing of the regional Arab rail link study, will add momentum to the rail connectivity objectives.

Detailed modal analyses, on a stretch by stretch basis, are essential to determine the road or rail standards (type, and speed) required for either mode to be an attractive option of

transportation, and hence to be an effective integration tool. Two major factors that would influence such analysis are the type of goods transported and length of road. For example a highway-standard road link between Libya and Tunisia would be the most suitable and effective integration link in terms of passenger transport (tourism, etc), while a high speed rail link might be the best option for transporting light cargo between Alexandria and Tunis. Nevertheless, it is likely, pending further study, that regional integration can best be achieved, and efficient competition encouraged between different modes of transport, by establishing road links of minimum highway standards and high speed rail links.

V. Other Geographical Dimensions

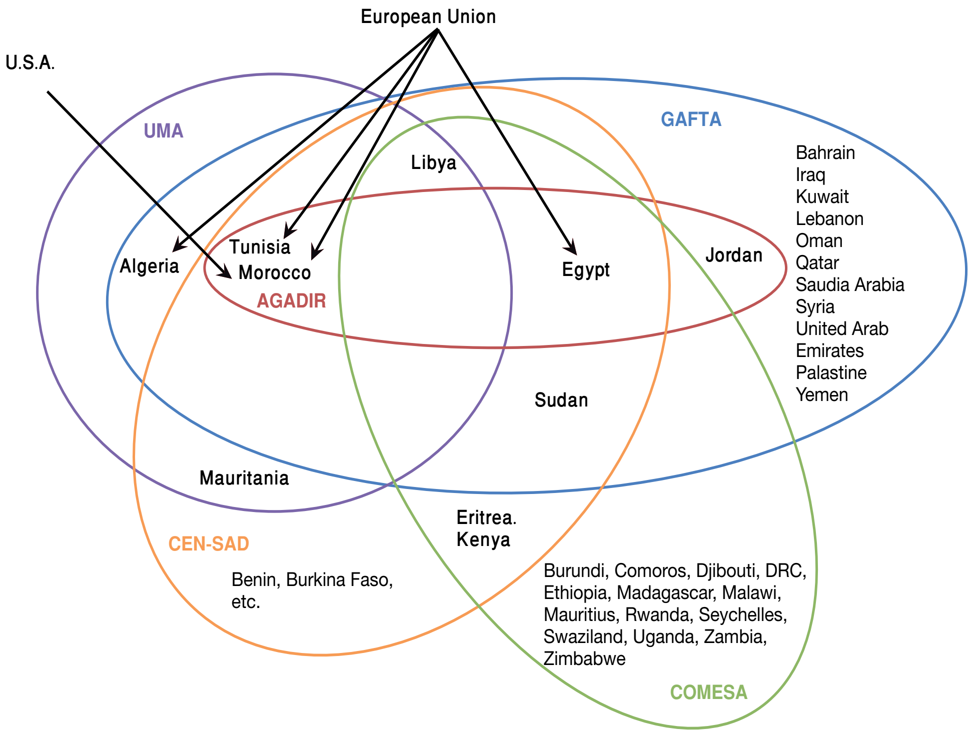
At the global level, the North Africa Region interacts mainly with the European Union and the Middle East, as shown in the figure below. Trade and movements of people also link the region with Sub Saharan Africa, but to a lesser extent. In addition, there are growing linkages with the United States, India, China and the GCC countries. Only two (Algeria and Libya) out of the six countries covered are not members of the World Trade Organization (WTO).

The spread of overlapping regional trade agreements involving North African countries has posed a number of challenges to the region's countries and constitutes an important impediment to increased trade within the region. The demands of negotiating multiple trade agreements have placed an increased administrative burden on countries, as many of them are not adequately equipped to manage the analytical and technical aspects involved in designing and implementing FTAs. Complex and multiple rules and in particular rules of origin increase business costs as well, particularly for small and medium-sized enterprises (the vast majority of the firms in the region) that often have limited capacity to adhere to them.

Europe

Despite the multiplicity of the free trade agreements in North Africa, it seems that the strongest incentives for integration are ultimately related to their relationship with the European Union. North African countries are involved in the process of Euro-Mediterranean Partnership launched at the Barcelona Conference in 1995. To date, four countries signed an Association Agreement with the EU: (i) Tunisia (entered into force in March 1998), (ii) Morocco (entered into force in March 2000), (iii) Egypt (entered in force in June 2004), and (iv) Algeria (entered into force in September 2005). These agreements gave an impetus to deregulation and privatization of the economy in each country, especially in Tunisia. One of the objectives of the agreements is to encourage the integration of the Maghreb countries by promoting trade and cooperation among them.

Figure 2. North Africa Spaghetti Bowl



Source: Authors.
Notes: Arrows denote bilateral Foreign Trade Agreements; circles denote Preferential Trade. Acronyms stand for: AGADIR (Arab Mediterranean Free Trade Agreement); CEN-SAD (Community of Sahel-Saharan States)[45] ; COMESA (Common Market for Eastern and Southern Africa); GAFTA (Greater Arab Free Trade Agreement); and AMU (Union de Maghreb Arab).

The European Commission established in 2004 a High Level Group on the execution of the major trans-European transport axes to the neighboring countries and regions. The Group identified five major transnational axes, of which the following two are of concern to the North Africa region:

- The South - Eastern axis: Links the EU through Turkey and Caspian Sea to Egypt and the Red Sea.

[45] CEN-SAD includes the following 28 countries (most of which are not included on the grouping above for space reasons): Benin, Burkina Faso, Central African Republic, Union of the Comoros, Côte d'Ivoire, Republic of Djibouti, Egypt, Eritrea, The Gambia, Guinea, Guinea-Bissau, Libya, Liberia, Kenya, Mauritania, Morocco, Niger, Nigeria, Sierra Leone, Somali Republic, Sao Tome and Principe, Sudan, Chad, Togolese Republic, and Tunisia.

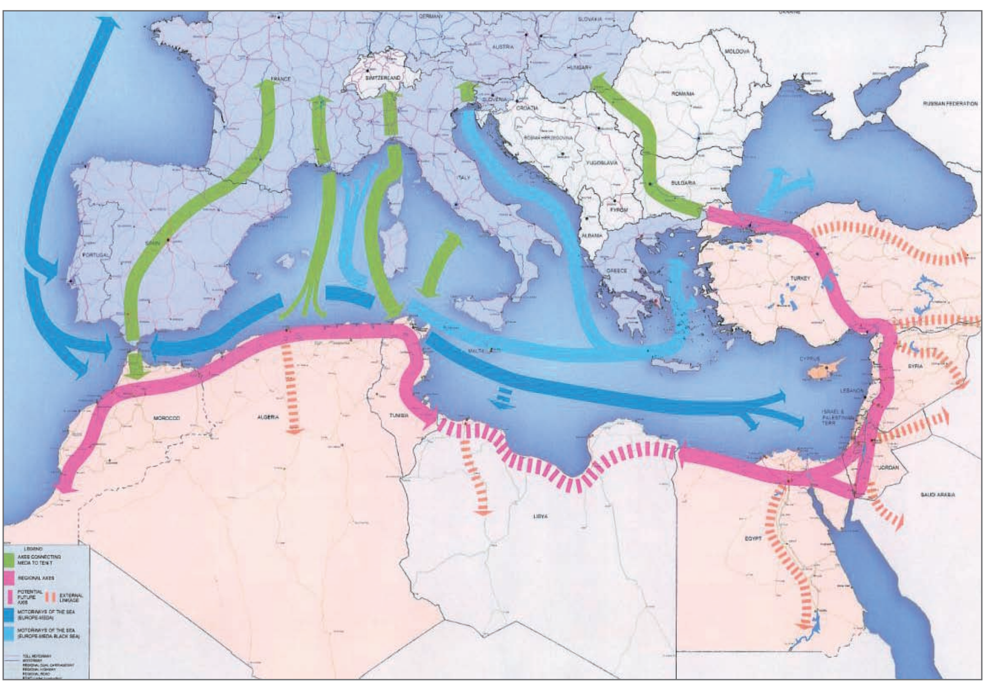
- The South- Western axis: connects south-western EU with Switzerland and Morocco and beyond, including the Trans-African link to Egypt and southwards towards Sub-Saharan Africa.

The group identified a list of short-term and long-term transport infrastructure projects and programs to support trade between Europe and North Africa. These included the development of Port Said and El-Dekhela port in Egypt, the Tran-African Highway, road safety standards, high speed rail links in Morocco, the Fez-Oujda highway in Morocco, the logistics zone in Tunisia, and Dej dej port in Algeria, as well as ambitious projects such as the Gibraltar fixed connection. These projects were identified in line with the trade routes between the two regions as highlighted in the map below. Most of these projects are under implementation.

Sub-Saharan Africa

The weakest of North Africa's infrastructure links are those with Sub-Saharan Africa, which is a potential market for increasing North African exports. The poor quality of North Africa's connectivity with the rest of the continent is consistent with the generally poor quality of infrastructure in Sub-Saharan Africa compared to other regions.

Figure 3. Main Trade Routes between Europe and North Africa



Source: Study "Euro Mediterranean Transport Project" by the European Commission. The map was modified by the authors.

Egypt's membership in the Common Market for Eastern and Southern Africa (COMESA) offers the country an advantage in exporting to Sub-Saharan Africa, which also would benefit from lower import costs, particularly of products such as construction materials (cement), and from access to Egyptian and European markets. Egypt, through the Sudan, is one of the surface routes for transporting goods from North Africa to Sub-Saharan Africa (the others are Mauritania-Senegal and the potential Algerian and Libyan connections). As discussed earlier, missing stretches do exist on the road and rail links between Sudan and Egypt, creating a bottleneck for trade within the COMESA market, particularly for Egyptian exports.

Air transport represents another potential area for development to maximize trade between North Africa and Sub-Saharan Africa, particularly the COMESA region. Egypt, again, is well positioned to play the role of a regional hub, not only linking Sub-Saharan African countries to North Africa markets but also European markets. Initiatives taken by Egypt to develop its air transport facilities and reach will go a long way in achieving these objectives. Of particular importance are the country's efforts to develop its air cargo capacity, and geographical air coverage, including Nile basin countries. Air cargo has the potential to provide Sub-Saharan African vegetables and fruit producers with quick access to European markets.

In terms of passenger and trade movements, the North Africa region has been playing an increasing role as a regional link, between Sub-Saharan Africa and Europe, the Middle East, and to a lesser extent the United States. Egypt is becoming the hub linking Eastern and Southern Africa with Europe, while Morocco aims to become a hub linking Western Africa and Central Africa with Europe and the United States. Morocco's Tangier – Med sea port is anticipated to serve as a regional hub for West Africa.

Trade with Brazil, China and India

The North African region has been influenced by the emergence of China, India and Brazil as major global trade partners. Trade flow patterns in the region have changed, yet to a lesser extent than in other parts of the world.

These changing global trade trends are having their influence and impact on the development of regional infrastructure in the North Africa region. These changes necessitate the development of port capacities and efficiencies. The change in the trade flow direction also means different ports must now be developed. For example, in Egypt the Damietta port is anticipated to receive a higher share in comparison to Alexandria port, as a result of the increase in imports and exports from and to China/ India.

VI. Major Partners and their Involvement in the Regional Integration Agenda

This section considers the most active development partners who have engaged in the area of trade facilitation and regional integration in North Africa. There are only two regional initiatives on trade facilitation; the IMF initiative (2002) and some activities of TMO / CETMO (e.g. Project DESTIN). Recently, the European Investment Bank (EIB) carried out a study on the Euro- Mediterranean logistic platforms. However, these initiatives are part of a framework on convergence, harmonization and coordination of trade facilitation and only focus on North-South trade. No initiatives on South-South cooperation are recorded in the area of trade facilitation.

International and regional development institutions have contributed, particularly in the past few years, to the development of regional transport infrastructure. Most of these contributions were at the national level, with the exception of the Trans-African Highway, which was sponsored since conceptualization as a regional project. The World Bank and European Union have begun to engage more recently in the trade facilitation aspect of the region's integration. Their participation was mainly through financing of initiatives in the field, sponsoring of region-wide programs, and more recently the development of assessment tools.

The Arab Fund for Economic and Social Development (AFESD) has played a major role in the area of regional integration in North Africa, where it had sponsored (through the financing and coordination of a feasibility study) the Maghreb Road, and subsequently financed several stretches along this trans-African road. Similarly, AFESD has recently approved a grant for a study on a regional railway link for the Arab countries, including all of North Africa. AFESD is currently financing the Tunis – Bousalem stretch of the Trans-African Highway in Tunisia. The Fund had also previously financed other stretches of the regional road, such as the Nouakchott – Nouadhibou road project in Mauritania.

The European Investment Bank (EIB) has participated in the financing of several regional transport projects, mainly in Morocco and Tunisia. Currently, the Bank is financing the Gabes – Sfax stretch of the Trans-African Highway in Tunisia. In addition, the EIB financed a study, published in 2009, on the Euro-Mediterranean Logistics platforms, which is considered as a first stage of a logistic platform network in the Mediterranean countries, partners of the EU. The aim of the study is to make a diagnosis of the infrastructure, transport and logistics quality in these countries. The principle of the logistic network was welcomed by the governments and private operators consulted. The primary objective will be to strengthen the North-South relationship, before moving forward on South-South cooperation.

The European Union provides support in the context of its Regional Programme on Economic Integration and Trade under the Euro-Mediterranean Partnership. The projects provide analysis of policies, support for FTAs between Mediterranean Partner Countries, backing of interregional cooperation on infrastructure networks, regulatory harmonization and convergence with EU standards as well as environmental sustainability and reform of environmental standards and infrastructure.

The International Finance Corporation (IFC) has developed a MENA Maritime Marketing Study, and MENA Logistics Assessment for Algeria & Morocco.

The International Monetary Fund (IMF) had co-organized three high level conferences focusing on trade facilitation (November 2005), financial sector reform and integration (2006), and the role of the private sector (2007). An action plan came out of the conference on TF entailing: (i) Activating the intra-Maghreb customs committee; (ii) Continuing customs reforms and developing a one-stop document processing system; (iii) Setting up a website with comprehensive and up-to-date information on trade regulations and taxation; and (iv) Establishing a private sector led monitoring unit on foreign trade in the Maghreb region.

The Islamic Development Bank (IsDB) has been active in financing stretches of potentially regional projects in Morocco and Mauritania. In Morocco these included projects such as the Fez – Taza – Oujda highway, which links the capital city of Rabat with the town of Oujda near the Algebrian borders. This represents a highway-standard alternative link between Morocco and Algeria. IsDB has also financed the Tangier – Med railway link in Morocco.

The Japanese International Cooperation Agency (JICA) is financing the Gabes – Medenine stretch of the Trans-African Highway in Tunisia, and is also engaged in the air transport sub-sector in Egypt.

The World Bank has financed studies that have covered trade facilitation in the region like national Logistics Strategies in Morocco and Tunisia. The World Bank also contributed to countries trade facilitation programs by providing lending particularly to Mauritania and Tunisia. A similar program has been initiated in Libya, prior to the conflict (World Bank, 2011).

The GTMO/ CETMO, the GTMO 5+5 (Group of Ministers of Transport of the Western Mediterranean) is an initiative which aims to strengthen cooperation and develop instruments for the transport sector in the Western Mediterranean. For fifteen years, several activities and studies have supported infrastructure to promote trade, to facilitate the integration of the Maghreb (Trans-Maghreb corridor), and to improve coherence with the trans-European networks.

VII. AfDB's Involvement in the Sector

The African Development Bank has been actively engaged in the North African region, particularly in financing infrastructure projects, an area where the Bank has developed notable expertise. The Bank has financed a sizeable number of regional transport infrastructure projects, with a smaller engagement on the trade facilitation side. While these infrastructure projects were financed as national projects, many of them were of regional impact as highlighted below.

The Bank has financed projects aiming at the development of the air transport sector in several North African countries. For example, in Morocco the Bank financed the airport rehabilitation project, the airport capacities project, and the third airport improvement and expansion project. Collectively, these projects helped improve air transport services and encouraged policy reform, resulting in a substantial reduction in transport costs, and hence improved air connectivity.

The Bank has also been active in the railways sub-sector. An operation has been recently approved in Morocco for the development of the Kenitra – Marrakech high speed rail link, at euro 300 million representing the largest single intervention by the Bank in the country. The project forms part of the future regional rail link between Tangier and Algeria. Similarly, in the roads sub-sector the Bank has contributed towards the development of the country's highway network, including the planned regional link of Marrakech – Agadir. In terms of maritime transport, the Bank has approved a grant for the financing of a masterplan study covering the 9 main ports of Morocco. In Tunisia the Bank is in the process of approving financing of the Gabes – Ras Jdir Highway, which constitutes part of the Trans-African Highway. The Bank is also financing operations in the railways sub-sector with SNCFT. In Mauritania the Bank has approved the financing of the studies for the Rosso Bridge which would provide the link between Mauritania and Senegal over the Senegal River.

VIII. Potential Areas of AfDB Involvement in Regional Integration Activities

It is recommended that the Bank focuses its intervention on addressing trade bottlenecks in three areas:

(i) Logistics services,
(ii) Customs cooperation and harmonization; and
(iii) Transport infrastructure.

In addition, the Bank could intervene in the cross-cutting area of:

(iv) Institutional capacity development.

Logistical Services Improvement

Many of the logistics bottlenecks in the region are policy-induced. Opaque regulations, bureaucratic procedures as well as outdated laws and institutional structures are ill-suited to meet increasingly complex client needs.

The region also faces several constraints related to the limited availability of modern logistics platforms and warehouses. Exporters are small and often cannot by themselves fill a whole container, putting the onus on the efficiency of grouping and coordination by the logistics providers. Unfortunately, the latter are small and disparate and have not been able to coordinate effectively. Often, grouping of transportation is undertaken once or twice a week, occasioning delays. Opportunities of gaining economies of scale and reducing costs are therefore missed.

Customs cooperation and harmonization

The Bank can play a critical role in supporting national customs reforms that are consistent across the North African countries. Each country has pursued its own agenda with the aim of reducing the time spent for custom inspection. In some case there has been some form of bilateral cooperation. However there is not consistent customs cooperation across North African countries. It is important that customs reforms be undertaken in concerted manner by the whole region in order to avoid fragmented approaches at the country level. The harmonization of customs laws, regulations, procedures and documentation to comply with relevant international conventions and best practices as well as the exchange of information on flows between export and import countries will certainly facilitate trade between the North African countries and enhance regional integration.

Financing of infrastructure projects

The Bank may also play a key role in financing regional transport infrastructure. However, to ensure the most efficient use of the Bank's resources, such financing should be targeted at:

1- Large infrastructure programs/ projects where financing requirements are high and cannot be met solely by the respective countries.

2- Projects where economic viability can only be ascertained through the regional perspective, and

3- Promoting and sponsoring large new regional projects.

Below is a tentative list of potential projects, some of which are still at the conceptualization stage:

Egypt

- Development of new or upgrading of existing road network (including links between Cairo and Alexandria, proposed East-West access between Red Sea coast and Libyan borders);
- Upgrade of the railway infrastructure (including missing rail link into Sudan);
- Development of new railway links into Libya;
- Expansion and Development of Alexandria Port;
- Development of cargo capacity of Egypt Air and Cairo International Airport.

Libya

- Development of railway infrastructure, particularly linking to Egypt and to Tunisia;
- Development of sea ports capacity and capabilities.

Tunisia

- Enfidha Deep Sea Port (PPP Concession);
- Remaining links of the Highway linking Libya to Algeria through Tunis;
- Development of missing rail links towards Libyan border;
- Upgrading logistics zones infrastructure through PPP concessions.

Morocco

- Development and upgrading of railway links capacities;
- Development of sea ports capacities;
- Development of the air transport facilities.

Mauritania

- Development of missing road links with Algeria, Mali and Senegal;

- Development of air transport facilities;
- Development of Nouakchott sea port capacity.

Institutional capacity development

- The Bank can have a real impact by supporting improvements in the capacity of North African institutions involved in trade facilitation. Below we list priorities for Bank support. The Bank should focus on institutional capacity building programs/ projects with a re gional impact, instead of macro-level capacity development, and emphasize cooperation among regional institutions, taking into account the existing exchange training programs in Egypt, Tunisia and Morocco;
- Regional cooperation in transport; promoting transport reforms at the regional level (shipping policy, harmonization transit charges, open skies agreement, harmonization of technical regulations and fiscal charges, etc.);
- Institutional support to put in place an appropriate legal environment, strengthen domestic regulatory agencies and increase their independence;
- Development of enabling environment for implementation of PPP projects;
- Development of capacities of implementing agencies and private agents and business organizations.

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2.5 Human Development

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High unemployment, particularly among young people, women and the highly educated, is a daunting economic and social problem for North Africa. Despite heavy investments, the educational system does not adequately provide the skills required by employers, particularly due to the poor quality and limited relevance of higher education. Burdensome regulations governing hiring and firing practices discourage employment growth, particularly the employment prospects for new entrants, and foment informality. And social safety nets remain weak and most workers lack coverage. These difficulties underscore the importance of reforming labor regulation to achieve greater flexibility and mobility, special assistance to youths, and reform in the social protection system to protect workers' incomes as opposed to protecting specific jobs.

Regional cooperation and integration efforts are currently limited, as political organizations promoting regional cooperation remain weak and largely irrelevant. The reform program could benefit from regional cooperation to share lessons and experiences in social policy, harmonize norms and standards, and benefit from economies of scale in various areas, including research and the formulation of national qualifications frameworks. Regional integration may be encouraged through cooperation with other regions, for example through efforts to adopt EU-based frameworks and standards and through cooperation agreements with Sub-Saharan African countries to share know-how and lessons.

Areas where the Bank could help promote regional integration include regional centres of excellence and mutual recognition of credentials in higher education, labor market reforms, efforts to protect workers (e.g. conditional cash transfer, unemployment insurance), and promoting international labor mobility. In all of these areas, cooperation with international partners active in the region is essential. Key instruments for Bank support could involve: (i) technical assistance to help expand existing models and mechanisms for peer learning, exchange of experiences and expertise, including the establishment of a Regional Knowledge Facility for Social Investment to generate and disseminate knowledge on social development policies, and a Social Investment Technical Assistance Facility (SITAF) with a special focus on areas of high returns for regional integration in the countries' response to social development challenges, (ii) intensified use of sector budget support to accompany policy and institutional reforms at the country level, and (iii) priority investments in higher education, labor markets, migration and social protection.

I. Introduction

The objective of this note is to outline the key human development features and entry points of regional integration in North Africa The present analysis, focused on higher education, social protection and labor markets is based on a review of the existing literature, discussions with government officials in Egypt, Tunisia and Morocco, and consultations with donor partners and selected civil society members. This note is divided into 8 sections. Following this introduction, section 2 provides an overview of specific country challenges in human development. Section 3 presents the regional integration dimensions and potential in North Africa and attempts to explain how enhanced regional cooperation could help overcome some of the challenges presented in section 2. Section 4 gives a brief overview of cooperation and integration initiatives with the rest of Africa and with the world, while section 5 describes what is currently done in terms of regional cooperation and integration in North Africa. Section 6 maps regional activities undertaken by the Bank's main international donor partners, while section 7 describes what the Bank itself is currently doing in the region in the area of human development. Finally, section 8 provides some tentative conclusions and recommendations on how the Bank could promote regional cooperation and integration in North Africa in order to meet the region's current human development challenges.

The recent social and political upheavals in Tunisia and Egypt and continuing turmoil across the MENA region underscore the importance of ensuring an inclusive social contract. In particular, the high and growing levels of unemployment among youth andincreasingly among the educated youth are problems common to all the countries in the region. Some of the underlying causes are to be found in deficient education systems, which fail to provide the skills needed in the labor market, as well as in rigid labor markets and weak social protection systems, all of which contribute to undermining mobility and adaptability, limiting growth and competitiveness. Improving human development[46] outcomes is of vital importance, not only from a social perspective, but also from an economic perspective. Social policy has a crucial role to play in developing diversified and competitive economies that generate growth and jobs.

While regional cooperation and integration efforts are currently limited, North African countries could gain from closer cooperation around common challenges. Nowadays, openness to neighbouring countries and to the world is critical to establishing and maintaining competitiveness.[47]

[46] When this paper refers to human development, it does so from a more narrow perspective of considering education, employment and social protection only.
[47] The 2010 ILO-IMF conference in Oslo on the challenges of 'Growth, employment and social cohesion' indeed highlighted the importance of regional cooperation for ensuring broad-based inclusive growth and employment creation http://www.osloconference2010.org

There are currently some regional initiatives in North Africa, notably in higher education, where countries are being brought together in an effort to align themselves with European-inspired reforms. These and other current cooperation efforts have already revealed some important positive aspects of greater cooperation. Promoting North African regional knowledge and learning from experience, while encouraging regional policy dialogue could contribute to improving socio-economic development by providing evidence-based investments for growth and employment-generation, and also by benefiting from economies of scale in some areas, such as national qualifications frameworks for instance.

The African Development Bank could promote regional cooperation and integration by contributing to existing initiatives in education, labor and social protection policy, as well as by launching a process of regional policy dialogue. By assisting countries in improving learning and expertise by sharing information, knowledge and lessons learned, the Bank can help generate data and knowledge to underpin social dialog and policy reform processes. Ultimately, this process of dialogue would provide a wider forum for studying and discussing how best to engage in social policy reform to improve education outcomes and enhance labor market flexibility while providing strengthened social safety nets in the region.

II. Country Context and Main Challenges

High rates of unemployment remain a key concern. While the countries of the region face different socio-economic contexts, they confront many similar challenges, the dominant one being unemployment. In 2008, the world average unemployment rate was 6%, and the MENA average was 10% whereas North Africa exceeded 17% (see figure 1).[48] This figure hides far higher unemployment figures in some of the countries.

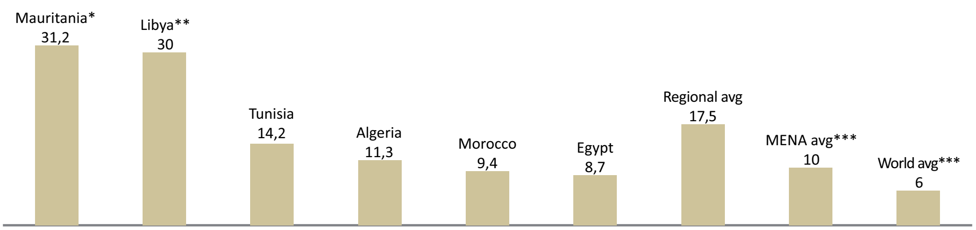
In Algeria, the overall rate came down from 30% in 2000 to 11% in 2008, but the youth unemployment rate remains high at nearly 22%.[49] Libya imports both skilled and unskilled labor, while suffering from serious unemployment among nationals, estimated to be at least 30% and affecting primarily the young who make up the vast majority of the population (World Bank, 2008b). Mauritania had an unemployment rate of 31% in 2008, while underemployment stood at 14%. Furthermore, while national unemployment rates might be high, access to and

[48] Figure 1: * Mauritania CSLP 2011-2015, Annex 1; ** Author calculation based on: World Bank estimate, Libya Country brief; *** Angel-Urdinola and Kuddo 2010; Source for Algeria, Egypt, Morocco and Tunisia: ILO Labor Statistics, http://laborsta.ilo.org

[49] Source: ILO Labor Statistics, http://laborsta.ilo.org

quality of employment in rural and marginalized areas in these countries are far worse than national averages suggest.

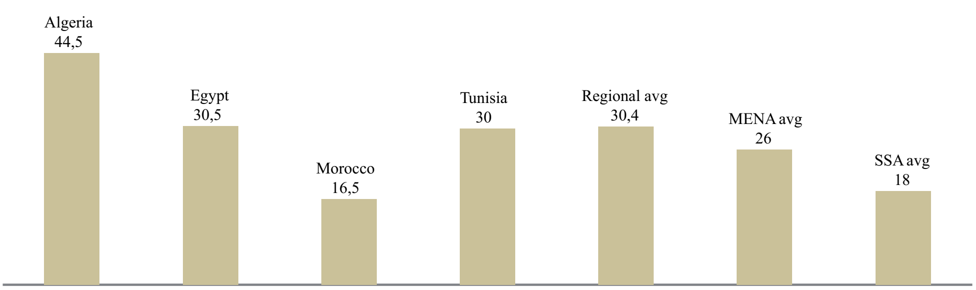
Figure 1. Unemployment (%) in North Africa, 2008



Source : for Algeria, Egypt, Morocco and Tunisia : ILO Labor Statistics, http://laborsta.ilo.org
*Notes: *Mauritania CSLP 2011-2015.*
***World Bank estimate, Libya Country brief*
****Angel-Urdinola and Kuddo 2010.*

Youth unemployment represents a social emergency throughout the region. High rates of populations growth and insufficient job creation have led to growing numbers of unemployed youth, a crisis which many refer to as a 'ticking time bomb'. As revealed in figure 2, the North African regional average youth unemployment rate is higher than both the MENA average and the average for Sub-Saharan Africa. Furthermore, youth represents a significant share of the population in the region, in Libya for instance, 80% of the population is under the age of 35 and over 50% is below age 20 (UNDP, 2005; World Bank, 2006).

Figure 2. Youth Unemployment (%) in North Africa 2005 (age 15-24)



Source: Assaad and Rouidi-Fahimi, 2007.

Youth unemployment is therefore a problem which affects large current and future population cohorts. Indeed, in 2008 youth accounted for 70% of total unemployment on average in Algeria, Morocco and Tunisia. In Egypt, unemployment affects 23% of both men and women between 15-24 years, and 60% of young women. Of the total unemployed, 79.5% are university or technical school graduates. This presents particular challenges for policy makers.

Recent political and social upheaval in the region both reflects and aggravates the unemployment problem. Tunisia's youth unemployment problem was violently thrust to the forefront of policy concerns by the recent social and political upheavals. The recent grassroots-driven overthrow of the regimes in Tunisia as well as in Egypt, sparked by social discontent due in large part to high youth unemployment, are poignant reminders of the urgency of this matter for governments in the region. Moreover, in Tunisia, the economic crisis that followed the events of January 2011 has worsened the situation, with the loss of 10,000 jobs and a further 80,000 being threatened. Estimates suggest that up to 700,000 new jobs will be needed. The unemployment rate is expected to climb to 19% in 2011, with dismal economic growth forecasts at a maximum of 1% (ETF, 2011). In Egypt, unemployment has become a chronic challenge, with a pre-revolution official unemployment rate hovering around 9% that has, since then, increased to 11.9%. Unemployment has the largest impact on the youth, and the educated from amongst them. Unemployment is also an insertion problem, since 93% of the unemployed are first-time job seekers, affecting primarily females (30% females versus 12% males for university graduates of all ages). Kick-starting the economy and accelerating job creation are therefore matters of extreme urgency to avoid an even bigger crisis. The transition and future governments will have to pay urgent attention to this matter in order to restore social peace.

Employment has long been a key concern of most countries in the region. As a policy response to high levels of unemployment, significant investment in active labor market policies (ALMPs) is testament to the commitment to employment generation among governments in the region. Tunisia, Morocco and Algeria have invested heavily in ALMPs, spending 1.5%, 0.7% and 0.6% of GDP respectively on various programs. Despite such investments, results have not been very encouraging (Subrahmanyam, forthcoming 2011).[50] ALMPs are not a substitute for a comprehensive employment strategy and do not help to correct structural labor market problems. In Tunisia for instance though unemployment came down somewhat in recent years, it remains persistently high and unemployment spells tend to be long. In the case of Egypt, a Youth Employment Action Plan was developed in 2009, but has yet to be endorsed by the Government and put into implementation.

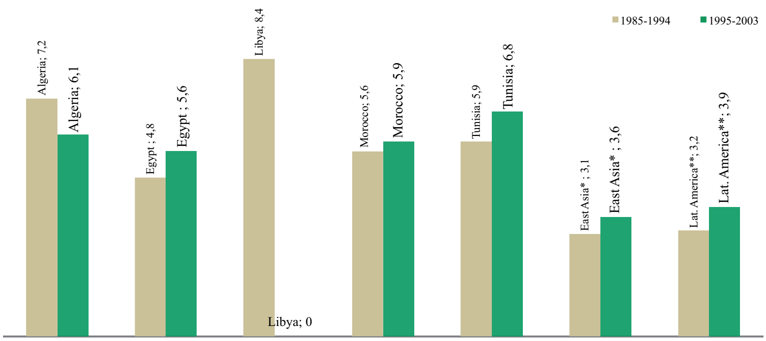
High levels of unemployment, particularly among the educated, are the result of failures in job creation. Economic growth rates, which have been tempered by the recent global economic and financial crisis, are insufficient to generate necessary employment growth. Some observers have even qualified growth in the Arab region as 'jobless growth', with investments allocated to sectors with low employment-generating potential (UNDP, 2009a). The unemployment problem is also due in part to insufficient job growth in high skill areas. Unemployment in North Africa is a

[50] The main programs used in these three countries concern entrepreneurship, wage subsidies and public works.

structural economic problem which is largely due to the incapacity of regional economies to absorb the large numbers of new entrants into the labor force (World Bank, 2009b). According to some estimates, in Egypt approximately 833 000 jobs need to be created each year to absorb both new entrants and the long-term unemployed; whereas the Egyptian economy thus far has only been able to provide 600,000 jobs annually (IOM, 2010). Morocco's unemployment rate, which dropped from just under 14% in 1999, to 9.4% in 2008,[51] is low in a regional comparison, and yet remains high by international standards, even in a context of low labor force participation rates, at just over 50% for the age group 15-59 in 2008.[52]

Recognising the need to enhance human resources for competitive growth, the region has invested strongly in expanding access to education at all levels. North African countries have invested significant amounts in public education since their independence, signalling a strong commitment to ensuring broad access to education (see Figure 3).

Figure 3. Average Public Expenditure on Education (percent of GDP), 1985 - 2003



Source: World Bank 2008, Table 1.1
** China, Indonesia, S.Korea, Malaysia, Philippines, Thailand; ** Argentina, Brazil, Chile, Mexico, Peru.*

Between the mid-1960s and the early 2000s, average spending on education in the region amounted to 5.5% of GDP.[53] A select sample of Latin American and East Asian countries had spending levels just over 3% for the same period. The countries have also significantly expanded access to higher education over the past decades. Enrolment in higher education is comparatively high, at 30% on average in 2003 (World Bank, 2008). Advancements have continued over thepast decade and most countries have also done well in terms of closing the gender gap in higher education (see Table 1).

[51] ILO Labor Statistics, http://laborsta.ilo.org
[52] This global rate nevertheless hides significant gender differences, with the male participation rate reaching almost 76%, versus the female one which was just over 26%. Source: ILO Labor Statistics, http://laborsta.ilo.org.
[53] Data for Libya only available for the years 1975 – 1994. Data for Mauritania from 2003 and 2006, from UNESCO Institute for Statistics, http://stats.uis.unesco.org, accessed on June 21, 2011.

Outcomes of the region's education systems nevertheless remain disappointing. Lack of quality is a serious issue for the region's education systems. Literacy rates are still relatively low and international education tests reveal very poor results. The Trends in International Mathematics and Science Study (TIMSS)[54] is an international assessment of student capacities in mathematics and science. Algeria, Egypt, Morocco and Tunisia all participated in TIMSS 2007. The results show all countries below the international TIMSS average score of 500 for both 4th and 8th grade maths and science students (Gonzales et al., 2009).[55] Furthermore, while education quality is poor in general, quality of inputs as well as outputs tends to be worse in rural and disfavoured areas of the countries.

Table 1. Distribution of Tertiary Level Graduates by Field of Study (percent, most recent)

Country	Most recent year	Humanities and arts	Social sciences, business and law	Science	Engineering, manufacturing and construction
Algeria	2009	23	44	11	12
Egypt	1995	35	41.2	10.2	-
Libya*	1999	30.3	18.3	30.8	-
Morocco	2008	14	36.2	23	10.6
Tunisia	2007	20	17.5	14.8	10.7

Source: UNESCO Institute for Statistics, http://stats.uis.unesco.org, accessed on June 7, 2011.
** Egypt and Libya categories: Education and humanities; Social sciences; Scientific, technical and engineering.*
Source: World Bank 2008, Table 1.8, based on UNESCO UIS. Data for Mauriania unavailable.

Quality and relevance are serious problems for regional education systems, whichdo not produce the skills needed in the labor market. According to a World Bank study of the MENA region as a whole (2008:3) "The education systems of the region are not yet fully equipped to produced graduates with the skills necessary to compete in a world where knowledge is essential to making progress." Education systems across the region tend to rely on outmoded and passive teaching methods. They tend to focus on the accumulation of formal credentials and diplomas, rather than practical skills.[56] Furthermore, the pre-dominance of humanities and social sciences courses (see Table 2), undermines the competitiveness of the region's

[54] TIMSS was developed by the International Association for the Evaluation of Educational Achievement (IEA) to allow participating nations to compare students'educational achievement in mathematics and science. TIMSS was first administered in 1995 and has occurred every four years since. In 2007, 48 countries participated in the evaluation. http://www.iea.nl/timss2007.html

[55] In maths, Algeria had the highest score for 4th graders, at 378, while Tunisian 8th graders scored 420. In science, Algeria's 4th graders had the highest score at 354 and Tunisia's 8th graders scored 445.

[56] This is likely at least partly explained by the traditional focus on preparing graduates for work in the public sector, which historically has been the employer of last resort (offering guaranteed employment to all graduates in some countries) and which continues to be an attractive option today due to higher salaries and more generous benefits (Angel-Urdinola and Kuddo 2010).

graduates. This contrasts with developing countries in East Asia and to some extent, Latin America where a large output of sciences, math and engineering graduates fuelled technology adoption. Indeed, technological innovation and adaptation are increasingly important in the economy and these skills are needed for competitive growth and development (Ezzine, 2009; World Bank, 2008). Furthermore, quality assurance and certification mechanisms for higher education in the region are deficient, making it more difficult to assess and remedy quality problems (Ezzine, 2009). All of this has resulted in an important mismatch between the type of skills provided through the education systems of the region and the skills in demand in an increasingly competitive labor market (Dhillon et al., 2009). The region desperately needs education systems which provide the skills necessary for acquiring and maintaining jobs as well as for being mobile in the labor market.

Enterprises identify a general lack of skills among graduates as a serious constraint to business activities. Enterprise surveys in Egypt for instance indeed reveal that firms identify workers' skills and education among the top five constraints to the business climate (World Bank, 2009f). The same holds true across the region. Thus, while many educated youths have difficulty finding adequate employment, numerous firms also report having trouble finding adequately skilled workers. This puts special emphasis on the need to reform and improve higher education and vocational training systems in the region.

Technical and Vocational Education and Training (TVET) is a priority strategy for many governments. Countries are investing in TVET precisely to meet the challenge of capacity gaps and mismatches. In Egypt, the government has embarked on a comprehensive reform of the TVET system in order to enhance governance of the system and improve cohesion and coordination of the TVET response. Currently, the TVET system in this country is mostly supply-driven and very fragmented, with some 20 government ministries and agencies involved. Reforms thus seek to make the system more demand-driven and coordinated with the private sector. In particular, a clear set of incentives is needed to enable TVET to become a viable and attractive option for youth. Amongst these incentives would be: upgraded curricula and equipment, cost-sharing for training and tax incentives to employers, as well as job openings. The dis-link between TVET providers and active employers is a major obstacle that needs to be immediately resolved. The reform programme started in 2005, with a second phase scheduled to start in 2013.

The rapid expansion of higher education to a larger share of the population increased the numbers of graduates among the unemployed. As mentioned above, there have been significant achievements in extending higher education opportunities to a broader share of the population. Nevertheless, a university diploma does not necessarily improve access to employment, and in most countries there is a negative correlation between education and employment levels with the unemployment rate higher among skilled workers. In Tunisia for instance, the unemployment rate among higher education graduates was below 5% in 1994. By 2009, this rate had increased to 23%. While only 20% of the stock of the unemployed have a higher education degree, university graduates currently represent more than 50% of new labor market entrants in Tunisia, posing an important challenge for future labor market policy (World Bank, 2010; Marouani, 2009; Ministry of Labor).[57] In Morocco in 2005, "59.8 percent and 39.8 percent of those with post secondary education diplomas in the 15-24 and the 25-34 age categories were unemployed" (Marouani and Robalino, 2008:5). Furthermore, workers with no education had an unemployment rate of 2.5%, while the rate for workers with a primary education was 10.5%, secondary education 24% and higher education 30% (Robalino, 2006).

Table 2. Employing Workers Index, Rank Among 183 Countries

Country	Employing workers
Morocco	176
Mauritania	125
Algeria	122
Egypt	120
Tunisia	108

Source: Doing Business 2010, World Bank 2009e. Data for Libya are unavailable.

Labor market rigidities in the region discourage employment growth and foment informality. Rigid regulations reduce labor mobility between firms and industries and they also reduce firms' ability to respond adequately to demand and productivity shocks. Burdensome regulations concerning hiring and firing practices tend to raise labor costs, thus reducing firms' margin for spending on innovation and for adapting to new technologies. In a context of rigid regulations, many firms choose to opt out of the formal sector, and indeed rigid labor regulations have been found to be associated with a large informal sector (World Bank, 2009e; Angel-Urdinola and Kuddo, 2010; Schneider, 2006). Such rigidities therefore have an overall negative effect on regional economies. (Table 3)[58] provides an international ranking of regional economies in terms of rigidities in employing workers. Morocco, which ranks as the most rigid in the region, has a system of rules and compensations for firing workers, which makes it one of the most complex

[57] Ministry of Labor website accessed 31/08/2010 http://www.emploi.gov.tn/index.php?id=447.
[58] The 'Employing workers' index of the Doing Business ratings is composed of 4 sub-indices: Difficulty hiring, Difficulty firing, Firing costs and Rigidity of hours. World Bank 2009e.

and generous in the world (World Bank, 2009; 2005). In Algeria, various non-monetary restrictions, such as prior authorization, notification periods and a costly and lengthy appeals procedure, impose costs on firms and discourage employment creation. Tunisia, meanwhile, has the highest regional score on the 'difficulty of firing' index, which reflects notification and approval requirements for firing workers (World Bank, 2009e).

Youth are particularly hit by unemployment in the region and are further disadvantaged as strict regulations create additional obstacles to first entry on the labor market (World Bank, 2009e). In the case of Egypt, and despite the positioning of the formal private sector as the main economic driver, its absorptive capacity has been modest, absorbing only 10% of the annual new entrants. As a result, the informal economy currently represents the main source of employment, with an estimated annual growth rate of 9% during 1996-2006 period. Evidence suggests that the informal sector employs 92% of the total non-agriculture private sector employment, with a focus on micro and small enterprises.

Despite significant improvements in the gender balance in education, women still lag behind in employment. Female enrolment rates have increased at all levels of education and in some countries the gender gap is smaller at the secondary than at the primary level. At the tertiary level furthermore, female students outnumber their male counterparts in half of the countries studied (see Table 3).

Nevertheless, unemployment in the region has an important gender dimension. In a context of generally low labor force participation rates of about 36% on average in 2008, women have far lower participation rates, attaining just under 17% on average as compared with 56% for men.[59] Despite a relatively weak presence in the labor market, women are disproportionally hit by unemployment.[60] In 2005, the average regional unemployment rate was nearly 18% for women and just over 11% for men.[61] In Egypt, for instance, the female unemployment rate dropped in the recent past, from nearly 25% in 2005 (versus 7% for men) to 19% in 2008 (versus 6% for men). Nevertheless, this was largely the result of a slowdown in government hiring, leading many educated women to drop out of the labor force entirely, as a response to the reduced likelihood of finding public sector work (Assaad, 2007a).[62] Similar trends have been

[59] All figures from 2008, except for Algeria from 2000. Source: http://laborsta.ilo.org and http://data.worldbank.org
[60] Female labor force participation rates are generally on the increase in the region, which has been adding to unemployment figures.
[61] Source: ILO Labor statistics (http://laborsta.ilo.org). Data is unavailable for Libya and Mauritania.
[62] Egyptian women tend to seek public sector employment as it is more egalitarian than employment in the private sector. In the public sector women can have lifetime careers and can expect to be treated similarly to men, whereas in the private sector there is a large gender gap in wages and opportunities (UNDP 2010).

apparent in Morocco, where part of recent improvements in employment figures were explained by low and decreasing participation rates (especially for women) rather than by employment-generating growth (World Bank, 2009c). Furthermore, while highly educated individuals in the general population are more likely to be unemployed than those with lower levels of education, the same is true for women. In Algeria for instance, 54.6% of educated young women are unemployed (AMS, 2009).

Table 3. Women in Higher Education and in the Labor Market (percent, most recent)

Country	Female tertiary enrolment 2009 (female as a proportion of male)	Female unemployment 2009**
Algeria	1.44	10.1
Egypt	0.77*	22.9
Libya	1.09	-
Mauritania	0.41	-
Morocco	0.88	10.5
Tunisia	1.53	17.3

Source: UNESCO Institute for Statistics, http://stats.uis.unesco.org, accessed on June 7, 2011.
** Data from 2004 (Eg) and 2003 (Lib).*

Public sector employment remains a privately attractive, yet publicly costly employment option. A traditional reliance on the state for job creation has reduced the importance of the private sector contribution to employment growth. Despite significant progress in downsizing government administration, public employment share remains very high compared with international standards, at an average of 31% of total employment in 2000[63] (World Bank, 2008; Kpodar, 2007). Public sector employment remains far more attractive than employment in the private sector. In Morocco for instance, public sector wages are 42.5% higher than in the private sector (Boudarbat, 2004, Kabbani and Kothari, 2005). In Algeria, nearly 90% of public sector jobs offered permanent contracts in 2004, compared with only 11% in the private sector (IMF, 2007). In addition to being very costly (public sector wages and salaries as a regional average accounted for almost 44% of current expenditures in 2004, see Table 4), this also carries significant efficiency costs as human capital in the public sector and particularly within government administration, is unlikely to contribute strongly to economic growth (World Bank, 2008). In fact, some studies have shown that the region incurs important losses of GDP growth due to higher levels of public sector employment (Nabli, 2007).[64] Last but not least, public sector employment retrenchment efforts are contributing

[63] Based on 5 countries, excluding Mauritania.
[64] It has been estimated that in the MENA region as a whole, the loss of GDP growth between 1985 and 1995 which was strictly due to public administration employment, amounted to 8.4%, or 1 percentage point per year (Nabli 2007).

to the unemployment problem. This is further compounded by the lingering tendency among job seekers to endure long spells of unemployment while waiting for public sector opportunities.

High and growing levels of informality indicate a worrying degree of vulnerability. Labor market rigidities and high costs of doing business have raised the level of informality. The labor market in North Africa is dominated by a supply of low-quality employment in the informal sector, which became the main source of new employment opportunities in the 1990s. In Mauritania, the informal sector accounted for 85% of employment in 2008 and approximately 30% of GDP (UNDP, 2010a). Estimates show informal sector employment in Egypt attaining 55% of non-agricultural employment, while over 70% of first-time job entrants started in the informal sector in 2006 (Dhillon et al., 2009; World Bank, 2004). Egyptian informality now also touches increasing numbers of young educated workers,[65] which has profound effects in terms of lower employment-quality and increased vulnerability due to lack of social protection mechanisms (Angel-Urdinola et al., 2010). The quality of employment opportunities is also a concern for Morocco. Employment surveys suggest that nearly 70% of employment opportunities created since 2000 were low-productivity and low-paying jobs in the informal or agriculture sector. Tunisian labor force survey figures from 2007 show that 54% of workers do not have a contract (World Bank, 2004).

Table 4. Public Sector Employment (percent)

Country	Public sector as share of total employment 2000	Public sector pay as share of current expenditure 2004
Algeria	29	31
Egypt	29	29
Libya	66	-
Morocco	10	51
Tunisia	22	63

Source: UNESCO Institute for Statistics, http://stats.uis.unesco.org, accessed on June 7, 2011.
** Data from 2004 (Eg) and 2003 (Lib).*

Social safety nets remain weak and most workers lack coverage. Extending the social safety net is "a precondition for the effective functioning of labor markets and for productive employment" (ILO, 2009). In most countries, labor regulation provides a key mechanism of worker protection;

[65] In 1998, less than 10% of educated youth worked in informality, whereas in 2006, the figure had risen to between 20% and 30% (Angel-Urdinola et al. 2010a).

and costly and cumbersome firing regulations, including high severance payments, are thus partially explained by a general lack of unemployment benefits. However, labor legislation mainly covers permanent employees in the formal sector and therefore effectively only covers a minority of workers. Furthermore, enforcement of labor regulations is weak, rendering non-compliance less costly. The current absence of strong, broad social safety nets contributes to reducing labor mobility and negatively affects productivity and growth. There is a general need for national comprehensive employment strategies which balance labor market flexibility with better social protection strategies.

Significant migration is occurring, but opportunities are not fully exploited by regional governments. In 2000, an average of 15% of the workforce in Algeria, Morocco and Tunisia emigrated (Chaaban, 2009:43, Subrahmanyam, forthcoming 2011). Mobility within the region is limited and non-convertibility of regional currencies further increases costs of transactions and mobility. Currently, extra-regional migration is viewed as part of the solution to widespread unemployment in most countries, and as such is more or less actively encouraged through agreements with destination countries and training interventions. Tunisia, Morocco and Egypt have all signed association agreements with the European Union, which guarantee national treatment to legal immigrants in terms of working conditions, payment, and layoff, and the portability of social security and pension rights. In return, the agreements also force the countries to readmit nationals illegally present in EU member countries, and to discuss the readmission of illegal third-country immigrants that have transited through their territory. However, migration is generally still the subject of fragmented interventions without comprehensive integration into countries' development agendas. Despite demand for emigration to Europe, many countries are not fulfilling the quotas for legal migration negotiated with European countries. Countries could benefit greatly from enhanced capacity to monitor skills needs and specific vacancies in the European market to better meet current and future labor demand.

III. Regional Integration Dimensions and Potential in Human Development

Achieving greater integration between the six countries of North Africa is challenging and yet could carry great benefits. "Outward-orientation is critical for allowing for human capital to have a positive impact on economic growth" (Nabli, 2007). Cooperating and sharing lessons and experiences in social policy, while harmonizing norms and standards in some areas, could help promote innovation and competitiveness in the countries of the region, gradually leading to a higher growth path. More specifically, the AfDB could support regional analysis, knowledge generation and country exchange in higher education reform, labor market reform and migration, as well as in social protection. Activities within these areas all need to pay special attention to the youth employment issue in order to strengthen country and regional responses to this growing crisis. In addition, engaging with civil society would help strengthen the voice of the more vulnerable and improve social accountability.

The potential of greater regional cooperation and integration in social development has been recognized in other areas of Africa. The Johannesburg draft document on an African Regional Social Policy agreed by Sub-Saharan African Ministers of social development in November 2006, outlines 8 pillars for the regional strategy, among them labor market reform, social protection and education. The recommendations of the document call for donors to (i) support capacity building in order to enhance regional ministerial cooperation on social issues; (ii) promote the sharing of experiences and best practices in the area of employment; and (iii) develop strengthened capacities of labor market institutions in the areas of employment statistics and labor inspections to better inform social dialogue for evidence-based and employment sensitive economic policies (Deacon et al., 2008).

In North Africa, regional integration can be key in improving labor market outcomes through enhanced mobility and specific assistance to youth. Increasing mobility – both nationally and internationally – would facilitate movement from lower- to higher-wage jobs and thus from less to more productive employment, across sectors and across national borders. North Africa's high unemployment rates have induced significant levels of migration. While migration alone will not resolve the current excess labor supply in North Africa, it is an important part of countries' strategies to address the issue. And as such, education, social protection and labor policies need to be aligned to stimulate job mobility internationally, as well as to foster job creation and labor productivity for growth and competitiveness in the region (World Bank, 2009b). However, it is important to highlight that the rising unemployment rates in Europe, increased xenophobia and the "nationalization" of jobs in the Gulf region, will increasing have an impact on migration of North Africans to Europe and the Gulf region.

Higher Education

Given a still insufficient level of capacity and human resources, a regional approach to higher education could provide significant benefits in the North Africa region. There is a recognized need to improve higher education in the region. In view of insufficient human and material resources at the national level for conducting education research, disseminating results and informing policy making, regional cooperation promoting sharing of good practices and regional networks of experts could allow countries to benefit from economies of scale. For instance, quality assurance frameworks and mechanisms are still very weak in the region. These are a key component of improving regional higher education systems and are also essential to facilitating labor mobility (Ezzine, 2009). Developing quality assurance capacity through regional exchanges and joint training and other development activities can save money and achieve faster results.[66] The World Bank and the EU are currently supporting such efforts. Efforts in other regions, including the Bologna Process in Europe, the harmonization of educational systems in East Africa, and the promotion of regional integration in ASEAN countries, provide useful examples of the potential contribution of regional integration to education.

The planned Mediterranean Higher Education Area (HEA) represents North Africa regional commitment to cooperation in the area of higher education. Various Euro-Med countries, including Algeria, Egypt, Morocco and Tunisia,[67] have signed the declaration proposing the Mediterranean HEA as an extension of the European Higher Education Area. The signatory countries agree, among other things to (i) reaffirm the role of education as a key factor for development; (ii) cooperate to promote the comparability and readability of higher education systems in the area; and (iii) establish common education and training paths based on a system of transferable credits and on easily readable qualifications and exploitable as well by the labor market, by sharing criteria, evaluation methods and quality assurance schemes in order to facilitate the mobility of students, researchers and professors.[68]

Labor Markets

In Europe, Networks of labor market observatories are increasingly used as an instrument in the fight against youth unemployment (Larsen, 2011). One of the aims of the EC-funded MEDA Education and Training for Employment (MEDA-ETE) programme is to promote the establishment of a labor market and Technical and vocational education and training (TVET) observatory function at the Euro-Mediterranean level. This is based on common indicators and methodologies to strengthen regional cooperation and understanding in areas of common interest, namely in improving TVET and labor market systems. This initiative entails creating a permanent expert network to ensure harmonisation of statistical methods and develop common indicators, and also includes relevant analytical work, study visits, workshops and the maintenance of a common online database of key indicators and statistics. Significant attention is devoted to youth employment through this initiative. Other regions, including in South American and Sub-Saharan Africa, also are enhancing cooperation in labor and social policies.

[66] Source: European Association for Quality Assurance in Higher Education, "Mediterranean Integration through Quality Assurance in Higher Education." website accessed on June 20, 2011: http://www.enqa.eu/files/MEDITERRANEAN%20INTEGRATION%20about.pdf
[67] The other signatories were Jordan, France, Greece, Italy, Malta, Portugal, Slovenia, Spain and Turkey. Source accessed on June 19, 2011: http://www.miur.it/UserFiles/2209.pdf
[68] The Catania Declaration, accessed on June 19, 2011, at: http://www.miur.it/UserFiles/2209.pdf

International migration can also increase inflow of new ideas and remittances, which have a significantly positive effect on poverty reduction and can also contribute to national development. North African countries could benefit greatly from increasing skills and employability of workers both for the national and the international market, in particular to meet future European demand for skilled and low-skilled workers. UN projections suggest that Europe will need between 1 and 10 million additional immigrants in the future in order to compensate for rapidly increasing dependency ratios.[69] Migration can have significantly positive effects in the sending countries in a context of constructive interaction between the migrant community abroad and the home country, and dialogue between sending and receiving countries, allowing for “win-win brain circulation schemes” (Schramm, 2009: 28). While skilled migration could have potentially negative effects through the loss of the very skills needed to sustain the development of sending countries, studies have shown that this is likely not a significant danger in North Africa, where increasing numbers of youth are entering tertiary education and unemployment rates for highly skilled young people remain above 10% (IOM, 2010). Furthermore, migration allows sending countries to benefit from reduced labor market pressure, as well as migrants' remittances, which have a significantly positive effect on poverty reduction and can also contribute to national development. A ten percentage point increase in remittances' share of GDP in MENA is associated with a 5.7% decline in poverty (IOM, 2010; ILO, 2007). Sending countries thus have a lot to gain from a coherent approach of assisting legal migration and actively encouraging the eventual return of migrants and their productive contribution to their home countries. Such active engagement with the migrant community abroad could be particularly gainful to countries like Tunisia and Egypt in the 'post-revolutionary' context, where new investments and employment growth are sorely needed.

Social Protection

Safety nets are weak and underdeveloped in the region, leaving many without sufficient social protection. Safety nets should be in place to protect the vulnerable groups, including workers in and out of employment and to help them transition between jobs.[70] Reforming labor regulation to achieve greater flexibility and mobility must be accompanied by a reform in the social protection system to provide enhanced employment security. Protecting workers' incomes as opposed to protecting specific jobs, by establishing and expanding unemployment benefits

[69] 1 million additional migrants per years would be needed to keep the working-age population constant and in order to maintain the ratio of the old to the working population, thus to keep the dependency rate sTable, up to another 10 million immigrant workers would be needed every year (World Bank 2008).
[70] The Doing Business 2010 report has introduced changes in the 'employing workers' indicator, to take into account the existence of safety nets (whether in the form of unemployment benefits or severance pay) for both permanent and temporary workers in cases of redundancy for economic reasons.

schemes would help enhance both efficiency and protection (Angel-Urdinola and Kuddo, 2010). In the aftermath of the January 2011 revolution in Egypt, issues related to minimum and maximum wages and unemployment benefits have been at the forefront of the reforms.

Concrete commitments to extending social protection coverage have been made in a regional context. In the context of the African Union's Social Policy Framework, a regional expert group meeting on investing in social protection in North Africa was held in Egypt in 2008. All of the governments in the region were represented, except Morocco. Among the recommendations emanating from the meeting, participants agreed that social protection should be included in all national development plans and that the right to social protection coverage should be articulated in national constitutions and legislation. Specific commitment was made to the need to include previously excluded groups, in particular informal sector workers. Furthermore, participants highlighted the need to establish and improve databases in order to achieve better targeting of interventions. Participants also stated that they must establish costed national plans based on a minimum package of social protection programmes. The African Union Commission was set to establish a programme of inter-country learning to build capacity of ministries, and countries themselves vowed to set up mechanisms to learn lessons from within and between regions regarding the impact of social protection on economic development.

IV. Integration with Africa and the Rest of the World

Overall, intra-regional exchanges in terms of mobility of persons, trade and other flows are quite low, as countries in the region tend to open more toward extra-regional partners rather than toward their neighbours. The EU is the predominant partner for the Maghreb countries. Egypt is also an EU Mediterranean partner, but it tends to look relatively more toward the Gulf countries as well as the United States. Indeed, the analysis and discussions at the country level reveal that there is thus far little effort or interest in promoting high-level cooperation and integration agreements. The region is thus more integrated with other regions, and particularly with Europe, than within itself.

The region is more globally integrated through labor mobility than through investments and trade. The existence of real labor market pressures has induced a continuing flow of labor migration to neighbouring countries in Europe as well as some in North Africa. As shown in Table 5, in the early 2000s the size of the migrant work force from Algeria, Morocco, Tunisia and Egypt equalled an average of 40% of the unemployed, and over 6% of those employed in their home countries. Furthermore, the region receives significant remittance inflows. Egypt and Morocco received US$7.8 and US$5.6 billion respectively in 2009, making them the biggest receivers of remittances in the region and the second and third biggest receivers of remittances in Africa (IOM, 2010).

While EU cooperation tends to promote modernization and openness in partner countries, it can also have adverse impacts on their incentives for cooperation and integration with their neighbours. As the Maghreb countries adopt cooperation and partnership agreements with Europe and increasingly adopt EU-based frameworks and standards in various sectors, this could be a uniting factor, facilitating cooperation and integration in these sectors within the region. For instance, adopting reforms in higher education along the lines of the Bologna process could bring higher education systems of the region closer, facilitating future cooperation and integration. However, enhanced EU cooperation could also act as a separating factor, as countries compete for a limited number of European openings in education and employment opportunities for instance. This was explicitly mentioned in a meeting with one government ministry, as a delicate balance where countries may in some instances have fewer incentives to cooperate and share lessons with neighbours with whom they are competing for the same access on the European market. Overall, however, while there is an element of competition, there is also significant scope for intra-regional learning from models of cooperation with the EU, as they can learn from each other's experience. Over the long term this type of know-how transfer of how to cooperate with extra-regional partners, such as the EU, could be very positive and should thus be supported.

Table 5. North Africa Labor Migration and Domestic Labor Markets (Thousand)

Country	Foreign labor in OECD + GCC 2001 - 2002	Unemployed	Employed	% Share of unemployed	% Share of unemployed
Algeria	250	2 478	6 597	10.1	3.8
Morocco	679	1 275	8 955	53.2	7.6
Tunisia	183	468	2 633	39	6.9
Egypt	1 173	2 007	15 182	58.5	7.7

Source: World Bank, 2009b.

Some regional organisations have attempted to promote regional mechanisms in higher education. Education ministers of the Arab League for instance agreed in 1998 on a resolution calling for the establishment of a regional mechanism for quality assurance and accreditation under the auspices of the Association of the Arab Universities and calling on member states to establish similar mechanisms at the national level. As a result, a Regional Committee for

Assessment and Accreditation in Higher Education was set up with the objective of helping create a culture of assessment and evaluation. Some countries in the North Africa region, such as Algeria, Egypt and Morocco, have been contemplating setting up national boards of accreditation as well as mechanisms for quality assurance.

South-south cooperation is growing in importance, in particular with Sub-Saharan Countries. Most of the countries in the region have important cooperation agreements with Sub-Saharan Africa whereby they share know-how and lessons with Southern partners who have come less far in the development of their institutional and policy environment. This type of 'south-south' cooperation is seen for instance in the medical field where Egypt has a strong presence in the medical sector of the Nile countries as well as in Libya and Chad. Tunisia is exporting its know-how in the field of employment services and vocational training to various African countries. Morocco is also offering collaboration in the field of education. Mauritania is generally a recipient of such cooperation and support.

Egypt has promoted higher education cooperation with seven upstream Nile Basin states in a diplomatic move to strengthen strategic, economic and cultural relations. The higher education cooperation plan was discussed by the Egyptian Supreme Council of Universities in June 2010. The plan involves government support for efforts by national universities to establish branches in Nile Basin countries. For example, following earlier initiatives implemented in Sudan and in Lebanon several decades ago, Egypt is now establishing a branch of Alexandria University in the southern Sudanese city of Juba and in N'Djamena in Chad.

It is felt quite strongly that such cooperation is beneficial and that the less-developed countries appreciate the usefulness of learning from other developing countries which have experienced similar development challenges and thus have a better understanding of current realities than their European or American development partners. It is believed that the AfDB has a particular advantage in this context as an African development institution which can offer and facilitate experiences and lessons learned from across the continent.

V. Broad Agenda for Regional Integration in Human Development

Existing cooperation initiatives and agendas for reform provide potential for future strengthening of the integration agenda. While only a few technical-level cooperation initiatives exist in the area of labor and social protection, cooperation is relatively more advanced in the area of higher education. The existing initiatives in higher education are not necessarily regional-driven examples of cooperation, but rather driven by external donors. However, they are generating significant harmonization of institutions and policies in the region, which is likely to facilitate further intra-regional collaboration in the future and strengthen bonds of trust as countries are drawn closer in their efforts to adopt international standards.

Political organizations promoting regional cooperation remain weak and largely irrelevant. There are currently various initiatives of cooperation and dialog carried out within the context of specific regional bodies. The Arab Maghreb Union (AMU) for instance was set up in 1989 by the five Maghreb countries to strengthen ties between the countries and, among other objectives, to promote the free circulation of people, goods, services and capital in order to contribute to development and social progress. The AMU brings together representatives of the member countries through seminars and conferences on specific topics. To date, the AMU is nevertheless a largely symbolic body with limited impact, mainly due to political realities in the region. Despite the presence of a number of Arab regional organizations in addition to the AMU, such as the Arab League, and the Arab League Educational, Cultural and Scientific Organization (ALESCO) both of whom have the objective to promote cooperation, neither national nor regional Arab organizations devote serious resources to promoting cooperation for regional integration.

Cooperation efforts have come further in the area of higher education, specifically as a result of European initiatives, inspiring reforms in North Africa. The institutions involved in planning and implementing the Licence-Master-Doctorat (LMD) reforms in the region have been working in a 'spirit of international cooperation.' "Not only have the three countries of the Maghreb consulted closely, but there has also been a high degree of cross-Mediterranean consultation, much of which has been undertaken with an eye to extending the European Higher Education Area to incorporate the Maghreb in what would become the Euro-Mediterranean higher education and research area." (WENR, 2006) The new system should make higher education systems of the region more compatible with other systems in the world, and particularly the European one, thus increasing international mobility of students and faculty from the region. International openness is a priority of the Bologna Process. There is great interest in Bologna reforms outside of Europe and the 'Bologna Policy Forum' is viewed as a platform for developing a closer relationship with other regions of the world, to also help promoting global cooperation in higher education.[71]

There is also some cooperation in the areas of science and technology and in ICT for education. There are some existing bilateral cooperation agreements between universities providing for student and faculty exchange programs, scientific and technological cooperation among others.[72] These are nevertheless generally limited in scope and do not have larger, regional

[71] Tunisia, Morocco and Algeria were invited to the 2009 policy forum.Source: http://www.ehea.info

implications. The five Maghreb countries have also agreed to cooperate with five European countries to promote digital education in universities, research institutes and schools to try to bridge the 'digital gap' between Europe and the Maghreb. The main aim of the Mediterranean plan is developing human resources in ICT through education and training of teachers in schools and lecturers in universities as well as institutes of information and communication technology.[73]

In the area of labor market integration and social protection, political realities and lack of real interest limit opportunities for integration. Despite the continuing flow of labor migration to neighbouring countries in North Africa as well as to Europe, efforts at high-level cooperation and integration agreements have been hindered by complex political dynamics. Indeed, the analysis and discussions at the country level revealed limited effort and interest in aligning labor market or social protection policies. Of all the countries in the region, only Egypt and Libya signed the 1967 Arab agreement for mobility of Arab labor and only Egypt has ratified its amendment (IOM, 2010). Nevertheless, technical-level initiatives do exist through the membership of various international technical bodies. Two such examples are the International Social Security Association (ISSA) and the World Association of Public Employment Services (WAPES),[74] both of which were mentioned as having fomented useful exchanges, contacts and cooperation through their various events. For instance, regional conferences have been organized by ISSA on how to develop social protection and how to reform old age pensions. Furthermore, a regional project financed by the Swedish Development Cooperation is currently supporting the modernization of the public employment agencies of Morocco, Algeria and Tunisia. This project has enhanced cooperation, exchange and learning between countries and has helped strengthen trust and willingness to cooperate.

VI. Role and Involvement of Major Partners in Regional Integration

As the Bank plans its engagement in the areas of higher education, labor markets, and social protection, there are several potential partners in the international cooperation community who are working closely with regional country governments on relevant initiatives. The AfDB needs to

[72] Furthermore, in an effort to boost higher education science and technology programs in the Arab Maghreb Union, the Maghreb Virtual Science Library (MVSL) was launched in Algiers in January 2011. The virtual library initiative is part of an "effort to support development in science and technology by increasing the access to digitised scientific data and research, and encouraging partnership and networking."

[73] Tunisia, Algeria, Morocco, Libya, Mauritania, France, Spain, Italy, Malta and Portugal concluded the ICT support agreement in 2009 and have agreed to convene each year to take stock of progress. Source: Sawahel, Wagdy (2009) "North Africa: Digital education plan approved." Educationdev. Issue: 0039, October 18. Accessed on June 20, 2011, at http://www.educationdev.net/educationdev/fe/loadsite.aspx?url=http://www.universityworldnews.com/article.php?story=20091015174431205

[74] All six countries are members of ISSA, while Tunisia, Algeria, Morocco and Mauritania are members of WAPES.

engage with them in order to ensure complementarity and also to support ongoing initiatives. Their activities in the region are described below.

Multilateral organizations

The European Unionthrough the European Neighbourhood Policy and the Union for the Mediterranean (UfM) is supporting and promoting the development of its Mediterranean partners. The European Neighbourhood Policy (ENP) was developed in 2004 to strengthen prosperity, stability and security of EU neighbour countries. The ENP is primarily a bilateral policy between the EU and each partner country. This bilateral relationship is strengthened through regional and multilateral cooperation initiatives.[75] The ENP goes beyond existing relationships to offer political association and deeper economic integration, increased mobility and more people-to-people contacts. The level of ambition of the relationship depends on the extent to which these values are shared. The ENP sets out bilateral action plans and offers Partnership and cooperation agreements or Association agreements. The Euro-Mediterranean Partnership, previously promoted through the Barcelona Process, was re-launched through the Union for the Mediterranean (UfM) in 2008. It intervenes in various sectors, such as environment, education and business development among others, with the objective of improving socio-economic development, regional integration, sustainable development and exchange of knowledge among the countries of the UfM.[76]

The Euro-Mediterranean higher education and research agenda constitutes one of the six focus areas of the UfM. Activities in this area include the promotion of existing initiatives such as Tempus and Erasmus Mundus.[77] The Euro-Mediterranean University, launched in 2008, was also one of the UfM's priorities, as is the creation of the Euro-Mediterranean Higher Education Area. The European Training Foundation (ETF) supports and promotes the development of vocational training systems in the EU's Mediterranean Partner countries.[78] The ETF is a non-profit body which covers both initial and continuing vocational training, for young people and adults. ETF action complements the reform process in the eligible countries, thus helping to achieve the objectives defined by the EU in the field of vocational training. In practice, the ETF's priorities are governed by the EU's external policy with each of the eligible countries.

[75] The ENP is not yet fully activated for Algeria and Libya as action plans are still missing.
[76] The UfM does not cover Libya.
[77] Tempus aims to help modernize higher education in partner countries mainly through university cooperation projects. Erasmus Mundus aims to enhance quality in higher education through scholarships and academic cooperation between Europe and the partner countries.Tempus is funded by four specific EU financial instruments: the Instrument for Pre-accession Assistance (IPA), the Development Cooperation Instrument (DCI), and the European Neighbourhood and Partnership Instrument (ENPI). Source: http//ec.europa.eu/education/programmes/tempus/index_en.html
[78] This initiative does not include Libya and Mauritania.

The ETF has also implemented an initiative called Education and Training for Employment (ETE), an EU funded initiative aimed at supporting the EU's Mediterranean partners in the design and implementation of relevant technical and vocational education and training (TVET) policies that can contribute to the promotion of employment through a regional approach. The project intends to achieve its objectives by becoming a platform for exchanges and debates, thereby providing a framework for cooperation between the EU and Mediterranean partners in the TVET field and creating synergies with related projects already launched with the EC and EU member state support. It will also contribute to the development of a long-lasting partnership among the concerned institutions in all areas of common interest, such as improvement in teacher and trainer training, the recognition of qualifications, vocational guidance, apprenticeships, the quality of training, the labor market, and youth employment, among others. The MEDA-ETE project is financed by the EC through a budget of 5 million euro for the 10 Mediterranean partner countries.[79]

The OECD is carrying out relevant analytical work and promoting regional dialogue and exchange of experiences. The OECD is carrying out extensive analytical work on the countries of the region. It has also launched a 'MENA Initiative on Governance and Investment for Development,' which is a regional effort comprising reforms to enhance the investment climate, modernize governance structures and operations, strengthen regional and international partnerships, and promote sustainable economic growth throughout the MENA region. The initiative seeks to strengthen countries' capacity to design and implement policy reforms. It will facilitate policy dialogue and sharing of experience on public governance and investment policies among policy makers from MENA countries and their OECD counterparts. The two pillars of the initiative concern 'Good governance for development' and an 'Investment programme.' The Investment Programme supports reform efforts of MENA governments to enhance the investment climate, among other things through the creation of a network for policy dialogue among investment policy makers.

The World Bank is supporting human development in the region through own and as joint initiatives. The World Bank has undertaken substantial analytical work at the regional level. The Arab World Initiative (AWI) is a World Bank Group partnership with the countries of the Arab world designed to foster greater regional cooperation and collaboration in order better to meet current development challenges. The AWI approach is built around three main areas: (i) human development and improving the quality of education; (ii) infrastructure to connect

[79] This initiative includes all of the countries in the region except Libya and Mauritania. Source accessed on July 10, 2011: www.meda-ete.net

countries physically as well as through the networks of knowledge and markets; and (iii) micro, small and medium enterprise development to improve private sector participation and boost employment. The AWI also has a focus on knowledge and capacity building, in partnership with other, public as well as private institutions to promote regional products and solutions on several topics, including employability, migration management and addressing the youth agenda among others. Indeed, the Bank is currently preparing a flagship report on employability in this context. In addition, the Bank also has important portfolios on labor markets and social protection at national level in various countries.

The World Bank-initiated MENA Knowledge Networks Agency (KNA) works with European training and knowledge resources to support MENA institutions in building capacity for knowledge sharing and learning in the region. The KNA technical office was opened up by the World Bank Group, with technical and financial support from the city of Marseilles, France. The KNA's proximity to the region enables it to work with regional institutions to identify the demand for knowledge in key areas and to organize learning activities in response. These MENA institutions (centres of excellence, training centres, thematic networks, and communities of practice) at the national, sub regional and regional levels are playing a lead role as knowledge connectors and providers. KNA is leveraging existing partnerships between Europe and MENA and exploring new ones including those between cities, regional governments, universities, think tanks, the private sector, and chambers of commerce. The KNA also reinforces synergies between the World Bank's MENA region capacity-building programs and those of the European Commission.

The Marseille Center for Mediterranean Integration (CMI) works to facilitate access to knowledge, promote development and converge policies towards greater integration. It was created in 2009 by its founding members: Egypt, France, Jordan, Lebanon, Morocco, Tunisia and the European Investment Bank and the World Bank. It promotes opportunities for learning and knowledge sharing among government, civil society, academia and business. CMI has a specific program focus on 'Skills, employment and labor Mobility', which covers skills development and regional harmonization of standards; qualifications and quality assurance mechanisms in post-basic education; employment and labor mobility; and promotion of income opportunities and active citizenship for the young.

CMI is also implementing a regional program on quality assurance in higher education. The CMI Program "Regional Harmonization of Standards, Qualifications and Quality Assurance mechanisms in post-basic education" focuses on building capacity in particular fields like Quality Assurance & Accreditation systems in Higher Education and Governance of Universities. This initiative seeks to improve Higher education management and provision of Quality Assurance (QA) in higher education in the MENA region, enabling the countries to participate in the mutual recognition of International Qualifications and Standards. It also aims to improve voice and accountability in all decisions and actions that affect Universities. This initiative was developed in collaboration with the European Association for Quality Assurance in Higher Education (ENQA), as well as with other partners such as the European Training Foundation (ETF), the Arab Network for Quality Assurance in Higher Education (ANQAHE) the International Organisation for Migration (IOM), the Forum Euroméditerranéen des Instituts de Sciences Économiques, FEMISE among others.[80]

The UNDP is supporting the political and socio-economic transition in the region. UNDP has launched a strategy in response to the challenges facing Arab countries in light of recent events. The strategy aims to provide an immediate response, supporting processes and institutions of dynamic transition, including fostering national dialogue and consensus-building. Technical assistance will also be offered to ensure political reform is carried out with a view to expanding economic opportunities, particularly for youth. UNDP also has individual country programmes. In Libya, the UNDP is looking to address immediate recovery needs, while also preparing to accompany the political and social transition. Among other priorities, UNDP supports youth engagement, particularly with a view to facilitating their productive entry into the job market. In Tunisia and Egypt, UNDP is supporting various social and economic aspects of the democratization processes. In addition, it is working to relieve economic pressure and social tensions and promote economic activities in the context of the Libya crisis, which is affecting both countries. In Tunisia, a one-year "Livelihoods and social cohesion" project is being developed for the south. This project has two components: Livelihoods stabilization through labor-intensive interventions and social cohesion.

The International Labor Organization (ILO) is supporting all of the countries in the region through targeted interventions in the areas of employment, social protection and social dialogue related to employment issues. In addition to promoting labor standards and the decent work agenda, specific ILO activities include stimulating youth employment; supporting the creation and empowerment of micro and small enterprises; promoting entrepreneurship culture; establishing MSE networks; training activities in entrepreneurship and management; stimulating local economic development through the promotion of income-generating activities in rural areas; supporting the development of national vocational training systems and developing national dialogue in areas such as vocational training. In social protection, activities include the provision of technical assistance to the Ministry of Labor regarding Occupational Safety and Health (OSH) and awareness-raising on HIV/AIDS.

[80] http://go.worldbank.org/1QF1X0JKD0

European Investment Bank (EIB) through the Facility for Euro-Mediterranean Investment and Partnership (FEMIP) assists and promotes the economic development and integration of the Mediterranean partner countries. Operational since October 2002, FEMIP invested EUR 10bn between October 2002 and December 2009. Activities are focused on two priority areas; support for the private sector and creating an investment-friendly environment. This initiative encompasses all the countries in the region except Libya and Mauritania.

The International Organization of Migration, IOM, helps develop labor migration management policies in the region. IOM works with governments and other key stakeholders to facilitate regular migration and also to encourage the productive return of migrants to their countries of origin. It also helps governments integrate migration into national development strategies. In Mauritania for , the IOM is helping the government to integrate labor emigration and immigration as key elements of the National Employment Strategy. IOM has also worked with Libya, for instance, as a receiving country for migrants from specific sub-Saharan countries. Furthermore, in March 2010, IOM Cairo, in cooperation with UN agencies, the European Commission (EC), and the Ministry of Foreign Affairs of Egypt and Egyptian civil society organizations launched the Joint Migration and Development Initiative (JMDI) in Egypt. This collaborative effort between the EC and UN seeks to support civil society organizations and local authorities working in the field of migration and development. As part of the initiative, three projects were launched, which bolster efforts to make migration work for development. These include initiatives developed by local organizations in Egypt, Germany, Cyprus and Greece working in the field of gender entrepreneurship, fish farming and NGO development. IOM is directly involved in implementing the JMDI in four other countries, including Tunisia (IOM, 2010a).

Bilateral agencies

The French Development Agency (AFD) is financing professional training activities in the region. AFD is active in Algeria, Egypt, Morocco and Tunisia, where, among other activities, it is supporting the improvement of professional training programmes in order to enhance human resources and strengthen the link between the education system and the labor market.

Germany's International Development Cooperation Agency, GIZ is implementing a regional program on good governance in the Maghreb, which encourages exchanges between institutions and the regional networking of pro-reform stakeholders. The program covers Mauritania, Morocco, Algeria and Tunisia, and runs from 2003 to 2013. The objective is to promote constructive dialogue between government agencies and civil society organizations. The program has adopted a regional approach, encouraging exchanges between institutions and the regional networking of pro-reform stakeholders. As a result of this program, networks of pro-reform forces have been created in the Maghreb to address the issue of good governance. Delegates attending various events exchange information and experience about their common concerns. Though the objectives of this lie outside the realm of interest of this note, it might nevertheless be an interesting model of regional cooperation. In addition, Germany is also supporting individual country initiatives, such as vocation training in Egypt.

The Swedish Employment Agency (AMS) has an ongoing regional cooperation project involving the employment agencies of Morocco, Algeria and Tunisia. As outlined above, this regional training project works directly with the three public employment agencies to respond to common problems and challenges while also helping to resolve particular country needs. Ultimately, it is expected that the project will contribute to promoting economic growth by improving the efficiency of labor markets and enhancing employment creation. Various interviews have revealed a very positive response to the project from the countries, as they have benefited from stronger cooperation, exchange and learning among them. A second phase will be started in 2011, and will focus specifically on making the regional cooperation mechanisms sustainable in order for the exchange and cooperation between countries to survive beyond the finalization of Swedish support. The project was launched in January 2009 and will be finalized in June 2011. The total budget is SEK 6 300 000 (approx. 680 000 euro).

VII. Ongoing and Previous AFDB Involvement and Lessons Learned

AfDB has limited experience in supporting higher education in the North Africa region in general. It has nevertheless funded projects aimed at technical and vocational education and training, as well as improving quality and efficiency of national education systems. In Mauritania, The AfDB and IDA are the lead donors in higher education. The AfDB is financing studies pursuant to the development of a new legal and regulatory framework for the sub-sector which will promote private-sector participation and prepare the way for the phased introduction of management and budget autonomy for the University and the Institutions of Higher Education. Furthermore, The AfDB also is financing the creation of the Institute of Agro pastoral-oriented Technological Studies.

The Bank is relatively less engaged in the area of employment and social protection in North Africa as compared with the rest of the continent. In the case of Middle-Income Countries and in Egypt in particular, this is partially due to the decision by the government to borrow only for income-generating investment projects. A few projects were nevertheless implemented over the past decade. These projects mainly covered employment generation and entrepreneurship development. In Egypt, three projects are currently under implementation with the Social Fund for Development, consisting of lines of credit for general and sector-specific micro-and small enterprise support initiatives, addressing the access to finance challenge. Furthermore, the Bank was instrumental in facilitating exchange of experience between the Egypt Social Fund for Development with similar institutions in the Gambia and Guinea. However, these remained ad-hoc and stand-alone initiatives.

Some lessons learned in Mauritania and Morocco interventions are the follows : (i) the budget support with simplified procedures for disbursement is an useful instrument, (ii) a simplification of conditions related to the intervention of the Bank facilitated the implementation of National Education Emergency Support Program, (iii) the importance of conducting pre-feasibility studies before launching the project to avoid the late start of projects, (iv) developing mechanisms to ensure the sustainability of acquired components, (v) the granting of administrative and educational autonomy is imperative, (vi) the Ministry of Education must also define a strategy of ensuring maintenance that could be part of the contract program with ISET, (vii) outreach activities to higher education, especially targeting women and the most vulnerable must be renewed and extended to the whole country to have a real impact, (viii) identifying local partners in the design of the project, (ix) the involvement of economic and social actors during the drafting of project and program concept notes is vital. Furthermore, and (x) the level of participation of local communities must be monitored.

VIII. Conclusions: Potential Areas of Regional Integration

Involvement in Human Development

The Bank could play an important role in promoting cooperation initiatives and disseminating positive results in human development. There are no ongoing regional-driven attempts to promote cooperation in North Africa, and there is no obvious champion for integration, nor any clear regional integration mechanisms in place relevant to human development. Crucially, there appears to be little political commitment to or interest in pursuing regional integration in the area of human development. As seen from other examples of successful cooperation and integration initiatives, political will and high level political commitment to the integration process is crucial. While this vital aspect appears to be largely missing in the North Africa region, there are important potential gains from wider co-operation in the region, and the AfDB, as an African development institution, could play a valuable role by collaborating with and strengthening existing initiatives and promoting new ones – focusing on advancing at a technical level, rather than at the political level – while carefully disseminating positive results of cooperation initiatives in order to sustain and further the process.

While the need for exchange of experiences and lessons learned is widely acknowledged, there is limited technical-level exchange, taking place mostly centred on higher education reforms. There are some programmes promoting technical-level policy dialogue, peer learning and sharing of experiences among countries, as well as some ad-hoc cooperation initiatives driven by activity-specific sectoral linkages.[81] Moreover, countries are cooperating in various higher education initiatives aiming to adopt European-inspired reforms and aligning country systems with the European one. Various meetings have confirmed the importance and usefulness of opportunities for exchange of experiences and lessons learned from specific reforms.

The AfDB could support a deepening of cooperation underpinned by knowledge generation, country exchange and dialogue. The Bank could further the regional cooperation and integration agenda by (i) supporting existing cooperation initiatives; (ii) initiating analytical work and generation of data to inform country-level social dialogue and reform processes, while also buttressing integration initiatives; and (iii) promoting country exchange, learning and dialogue. In terms of subject areas, the Bank could support ongoing work and initiate cooperation initiatives in the areas of higher education, labor, migration, social protection and civil society engagement.

The Bank should encourage and assist its RMCs in the North Africa region to draw up comprehensive and proactive approaches to migration. To meet the challenges faced by the sending countries in this region and reconcile them with the socio-political constraints experienced in many receiving countries, a holistic approach to migration is necessary. This approach has to define a coherent policy that integrates migration with labor market, education, health, social welfare, and security policies. By perceiving emigration as a development tool, migration policy should actively aim at making it more dynamic. Open consultation and participation of the private sector and civil society, including NGOs, in the formulation of migration management strategies can be conducive to better labor migration policies.

In order to achieve cooperation in the areas mentioned above, it is crucial to adopt a gradual approach to strengthening cooperation, in view of current complex political dynamics in the region. This is particularly true in the post-revolution phase with potential fear in some countries of contagion from Tunisia and Egypt. It is therefore suggested that the AfDB initially concentrate on a process of regional analytical work and knowledge generation, responding to specifically expressed needs, and also start promoting peer exchange, so as to build the foundations for deeper cooperation processes in the future. Furthermore, it is important to keep in mind that some countries are likely to be more interested in this initiative than others. For the analytical

[81] Some examples of such programs and initiatives include the International Social Security Association (ISSA) and the World Association of Public Employment Services (WAPES) through which technical-level meetings, cooperation and policy discussions are held. Furthermore, the Swedish-funded regional support to Maghreb public employment agencies has fomented bilateral ad-hoc cooperation and exchange among countries, which were referred to in interviews and deemed as very valuable.

work as well as for the promotion of country exchange and dialogue, the Bank could partner with the OECD which is already carrying out analytical work relevant to employment and also promoting regional policy dialogue and exchange of experiences and learning in the region. Bank can position North African regional integration as a pre-requisite to consolidating intra-regional integration between North Africa and Sub-Saharan African, which seems to be more appealing at the present time.

Analytical work / Knowledge generation

Through this process the AfDB could finance upstream analytical work, financing targeted studies of specific aspects of higher education, labor markets, social protection systems and migration with potential leverage and spill-over effects. This would provide an opportunity to pool resources and efforts to generate knowledge to inform evidence-based policy and institutional reforms. As part of this, the Bank would also support country efforts to generate sorely needed data on which to base initiatives for policy reform. There are many examples of studies which would be valuable.

Higher education

- Assessment of comparative advantages in higher education in anticipation of the promotion of regional centres of excellence;

- Assessment of reforms needed to ensure comparability and mutual recognition of degrees and diplomas;

Labor markets

- Stakeholder consultations, focus groups, and public opinion research to gauge the views of key stakeholders (e.g., youth groups, labor unions, government officials, private sector);

- Evaluation of active labor market policies as well as programmes targeting youth employment in the region;

- Assessments of private sector employment needs and linkages to professional and vocational training programmes;

- Comparative study of labor legislation in the region. Interest in this study was expressed in country-level consultations and it is currently also discussed as a project within the Arab Maghreb Union (AMU) and could thus be coordinated with them;

- Studies and surveys aimed at generating solid labor market data to support processes of social dialogue and reform;

Social Protection

- Assessment of social protection institutions and mechanisms / developing social protection strategies at national level.

- Piloting social protection initiatives such as conditional cash transfers, unemployment benefits, etc.

- Developing an African Microfinance Network, such as the Arab Microfinance Network established. This would expand the development and support to microfinance which is a dual poverty alleviation/employment generation mechanism.

- Extending social protection mechanisms to provide adequate support for workers in and out of employment and how to develop and improve unemployment insurance mechanisms;

Migration

- Joint analytical work with IOM to "zoom" in on the migration issue but also explore possible collaboration in Tunisia to help the country address the issue of the returnees;
- Studies with IOM on how improve labor mobility intra- and extra-regionally and regularize migration, taking due attention of the underlying political sensitivities.

Technical Assistance / Country Exchange

The Bank could support and help expand existing models and mechanisms for peer learning, cooperation and exchange of experiences and expertise through:

- Supporting the organization of seminars and workshops bringing together representatives of the six countries with clear agendas for useful exchange of experience and expertise on good practices in terms of programs and processes;

- Promoting the creation of technical networks of experts in fields related to higher education, labor and social protection, to facilitate ongoing exchange and establishment of permanent mechanisms for technical-level exchange and learning;

- Providing financial, technical and advisory services to monitor progress made in the region on implementation of the reforms on the labor market, higher education reform and public-private partnerships to create jobs needed at national and regional levels;

- Mobilizing funds for investment in skills development and lifelong learning, infrastructure, human resources, and teaching/research facilities, including ICTs;

- Establishing collaborative arrangements in higher education including franchising, twinning, and joint degrees, where study programs, parts of a course of study, or other educational services of the awarding institution are provided by a partner in another North African country.

Investment / Lending options

Building on the analytical work and country exchange and dialogue, the Bank could selectively support priority investments in higher education, labor and migration and social protection, in order better to address the rising unemployment challenge in the region. The proposed areas of engagement entail engaging with the main development partners as well as with civil society organisations. Though many of the proposed activities have a distinctively national dimension, they are also intended to serve as measures to prepare and enable greater regional cooperation and integration measures in the future.

Support initiatives that foster job creation, particularly for youth. The Bank could collaborate with the World Bank and the Marseilles Center for Mediterranean Integration to support ongoing work on employment, especially to promote youth employment. Indeed, the AfDB has experience in employment promotion, especially for youth, in Africa and more recently in North Africa, as it currently prepares to engage in this area in the continent. The Bank could also support entrepreneurship development, formalization of SMEs, integration of informal enterprises in value chain development initiatives, as well as other initiatives that focus on the emerging " green economy" such as renewable energy manufacturing and distribution, natural resource management and waste management. The Bank has initiated operations in Egypt in many of these sectors.

Providing support to higher education reforms with a view to establishing a firm link between the education system and the needs of the labor market. This would be undertaken in collaboration with the ILO, and in accordance with the Bank's Higher Education Science and Technology Strategy through: (i) strengthening national and regional centres of excellence in selected priority areas identified as having a high potential for job creation (such as agriculture and livestock, manufacturing, tourism, health sciences and health delivery support services, engineering, business enterprise and energy); (ii) linking higher education, research and technology to enterprises operating in labor intensive sectors; (iii) improving quality and efficiency of higher education through increased reliance on open and distance education and learning (Odel) as well as more partnerships between private and public education institutions; and (iv) promoting girls' participation in the labor force (specific fellowships for girls, increase number of female teachers, mainstreaming of inclusive gender policy, etc.).

Intensifying assistance to integrated TVETs/apprenticeships programs targeting the private and informal sector. Supporting upgrades and reforms of the mid-level technical training system would help diversifying the training at secondary levels with improved and more adequate TVET adapted to the needs of the informal markets. Programs would support basic and technical skills and develop vocational skills in labor-intensive sectors such as agriculture, tourism and manufacturing. The private sector would be tapped to provide advice and support with a view to making vocational training demand-driven and supporting innovative approaches as well as providing internship and apprenticeship programs.

Advancing the AU Agenda in social protection. The AfDB should also help promote social protection reform in North Africa in order to enhance social protection coverage of workers in and out of employment. This should be done specifically with an eye to the African Union's continent-wide agenda for extending social protection and ensuring at least a basic package of programmes. In this context, the countries of North Africa have already undertaken specific commitments in view of building human and institutional capacity to extend their social protection coverage. Here, the Bank could help finance the improvement of national databases to improve targeting of social protection programmes; support mechanisms for dialogue and exchange among countries in the region as well as supporting study visits and exchange with partners from outside the region.

Civil Society Support

Engaging with civil society organisations and promoting social dialogue with youth to strengthen voice and accountability could be powerful instruments in addressing the youth unemployment issue. While it is important to work with and strengthen existing regional institutions, such as the AMU, these organizations have serious limitations. Aside from working with donor partners, some of which are very active in the region, civil society organizations may also offer an interesting and apolitical alternative. There are various valuable initiatives which could serve both as models and as partners in interventions promoting regional cooperation in North Africa. Social dialogue mechanism for the youth should also be supported to ensure the youth have a voice and are heard at policy levels where decisions affecting them are made. An enabling environment should be created wherein the youth are represented from the community, local, national and continental levels. This has recently been done in a policy-based loan in Tunisia entitled Governance and Inclusive Development Support Programme (approved by the AfDB Board on May 30th 2011). Further to collaboration with the partners such as the World Bank and the EU, partnerships with the AU Youth Forum, Pan African Youth Network, and the ILO Youth Employment Network (YEN) should also be explored.

Furthermore, social enterprises such as Silatech, or Injaz al Arab, both of which work actively to combat the problem of youth unemployment in the Arab region, could be potential partners in this area.

Silatech**,** based in Qatar, aims to improve outcomes for youth by connecting them with employment and enterprise opportunities. It has an extensive network of experts and practitioners and produces research and knowledge and provides policy advocacy. Currently, Silatech is ooking to engage with development banks in order to put youth employment and enterprise projects in their project pipelines.[82] This could be an opportunity for the AfDB to engage with and expand Silatech's activities and knowledge to the North Africa region.

Injaz al Arab is part of the global network "Junior Achievement". Injaz harnesses the mentorship of business leaders to inspire a culture of entrepreneurialism and business innovation among Arab youth, starting at the elementary school age and providing lessons in school as well as internship opportunities and mentoring. It is one of the most successful regional examples of a strategic social partnership between a social enterprise and corporations.[83]

[82] http://www.silatech.com/index.php?option=com_content&view=article&id=178&Itemid=141
[83] http://www.injazalarab.org

Annex 1. A Note on Instruments

In partnership with key regional and international organisation such as the World Bank and the OECD, the Bank could establish a special Regional Knowledge Facility for Social Investment for North Africa aimed at pooling resources to generate and disseminate policy knowledge on social development policies, their effectiveness and reform. The facility could target specifically thosecritical nodes for greater regional integration in social development policies, practices, norms and standards.

The Bank could establish and host a Social Investment Technical Assistance Facility (SITAF) for North Africa in the form of a multi-donor trust fund, with a special focus on those areas of high returns for regional integration in the countries' response to social development challenges in the region. The Bank could manage such a facility and participate financially by pooling resources from its own net income, including MIC grants. This would establish a dedicated, rapid response facility to support and inform reform processes at country-level through the provision of targeted technical assistance to undertake diagnostic works, facilitate policy dialogue, generate and disseminate knowledge, and deploy short-term technical advisors. Such a facility could be targeted to critical nodes and high leverage areas at the regional level to foster greater consensus on the value and benefits of integrated regional approaches to social development, for example the harmonisation of norms and standards and the sharing of good practices.

The Bank could intensify the use of sector budget support to accompany policy and institutional reforms at the country level and thereby foster greater policy dialogue within countries on social development policies and practices. Such country-focus operations will likely have spill-over effects at the regional level, considering the interconnectedness of many of the policy and institutional challenges at hand. This, in turn, will help foster greater dialogue and sharing of good practices across countries, through benchmarking and demonstration effects.

The Bank's traditional investment lending instruments in the area of social development could be designed to complement policy-based operations, bringing to bear its ample experience in social investment projects in the continent. Such social investment loans at the country level could include components specifically targeted at strengthening countries' institutional capacities to tackle the national dimensions of sub-regional challenges, as well as the countries' policy responses to and engagement in sub-regional questions and regional integration challenges.

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2.6 Information and Communication Technologies

Ali Yahyaoui and Mustapha Mezghani

North African countries have developed strategies to strengthen the use of information and communication technologies (ICT) in their economies. However, the production of ICT and IT-enabled services is primarily directed towards Europe, with countries sometimes viewing potential regional partners as competitors.

This note reviews the potential of regional integration in the region, and the integration of North Africa with the rest of the world. After presenting the major trends of the sector and the outstanding issues in North Africa, this note proposes a number of measures to strengthen integration with Africa and the rest of the world. It also identifies potential areas of Bank support for regional integration in the ICT sector.

I. The Global Context

North African countries[84] attach great importance to ICT in their growth strategy. With the exception of Libya, all these countries have adopted an e-strategy for (directly and indirectly) enhancing the participation of ICT in economic growth and poverty eradication. Almost all of them also have made ICT one of the pillars of their economic growth.

However, each of the countries operates in an independent manner, sometimes considering their counterparts in the region as competitors. Throughout their history these countries have been more interested in developing economic ties with Europe than within the region. All the countries except Mauritania and Libya have signed free trade agreements with Europe under the Euro-Mediterranean Free Trade Area (EMFTA), and special agreements are in the works between Libya and Europe. Intra-regional trade is among the lowest world's regions, despite being Africa's best endowed region in terms of infrastructure. Foregoing regional opportunities means losing a potentially important source of growth.[85]

[84] Within the context of this paper, the term "North Africa" refers to the area which includes the following countries: Algeria, Egypt, Libya, Morocco, Mauritania and Tunisia.
[85] According to World Bank estimates, the non integration of the Maghreb costs the countries of the region between 1 and 3 percentage points of GDP annually.

Production of ICT and IT-enabled services are also primarily directed towards Europe. Nevertheless some North African ICT enterprises are increasingly showing interest in other countries of the region. Egypt, Morocco and Tunisia are looking to develop either regional representations of IT multinationals or local companies that have expanded their operations to countries of the region.

There is no regional economic community (REC) bringing together all North African countries. Some countries of the region are co-members of RECs, but there is no specific REC for North African countries. The Arab Maghreb Union (AMU) has done a great deal to bring Maghreb countries closer to one another by establishing mechanisms for exchanges and common policies. However, UMA comprises only five of the six North African countries, since Egypt is not part of the process. Egypt is a signatory to the Agadir Agreement, which has boosted trade among member countries, including Egypt, Morocco and Tunisia, in North Africa, and Jordan, in the Middle East. The Community of Sahel-Saharan States (CEN-SAD) consists of five of the region's six countries, excluding Algeria. The Great Arab Free Trade Area (GAFTA) includes all regional countries, but its implementation is often reported as being difficult.

There is no regional body specializing in ICT specifically for North African countries. CEN-SAD has no institution that is charged with encouraging trade in ICT. However, the UMA has an infrastructure division which includes the ICT, among other areas.

North African countries are all members of the Arab Information and Communication Technologies Organization (AICTO), which is a governmental organization operating under the umbrella of the League of Arab States. It aims to promote ICT for the entire Arab region, facilitate cooperation among member countries, and help formulate common policies for developing critical technology areas. North African countries are all members of the African Telecommunications Union (ATU), a continental organization that promotes the development of ICT infrastructure and services. The institution is a partnership between public and private sector stakeholders of the ICT industry.

There is no specific association of telecommunications regulators in North Africa. However, the region's regulators meet within the framework of the Arab Regulators Network (AREGNET) or, for some of them, within the Francophone Telecommunications Regulatory Network (FRATEL), and for some others within the Euro-Mediterranean Regulators Group (EMERG).

II. Overview of Major Trends in the Sector and Pending Issues in North Africa

For several years, most North African countries have been committed efforts to develop the ICT sector. Thus, all North African countries, excluding Libya, have an e-strategy that encompasses not only the infrastructure, institutional and legal aspects of the digital economy, but also the development of human resources and local businesses. In putting this strategy in place, huge efforts were made in the area of infrastructure and bold steps taken to liberalize the sector, through privatization or calls for greater participation of the private sector. Considerable progress was made in abolishing telecommunications monopolies, initially for mobile telephone services in virtually all countries in the region. Subsequently, monopolies in fixed telephone services were eliminated (except for Algeria and Libya),[86] in conjunction with efforts to encourage private investors to join the incumbent operator.

Table 1. Statistics on the Telecommunication Sectors in North Africa (2009)

Country	Algeria	Egypt	Libya	Morocco	Mauritania	Tunisia
Number of fixed operators	1	2	1	3	2	2
Fixed teledensity[87] (%)	7.38	12.42	16.56	10.99	2.26	12.45
Number of mobile operators	3	3	2	2	3	2
Mobile teledensity[88] (%)	93.79	66.69	148.51	79.11	66.32	95.38

Source: International Telecommunications Union

The mobile teledensity rate increased sharply with mobile telephony liberalization. The liberalization helped most of the population be connected. The rise in mobile phone subscriptions far outstripped the modest increase in landlines turning it into the main source of telephone connections. For example, mobile teledensity reached 30 times fixed teledensity in Mauritania. Access to mobile phones also facilitated Internet access and e-services through mobile. Although countries of the region have made considerable efforts to liberalize the telecommunications sector, none of them has adopted the "full liberalization" approach of the 1998 European Union directive or the similar, competitive market structure of Central European countries and Turkey. For instance, Turkey's liberalization of international communications led to a sharp drop in rates and greatly facilitated regional integration, while contributing to the growth of Small and Medium Entreprises

[86] Projects to address telecommunications monopolies were initiated in 2006 and 2009, but we were unable to obtain information confirming the results.
[87] The number of landline telephones in use for every 100 individuals living within an area
[88] The number of mobile telephones in use for every 100 individuals living within an area

(SME) goods and services exports. Liberalization has also encouraged the growth of investment in telecommunications infrastructure, especially in fibre optic and the UFB wireless networks.

III. Regional Integration Dimensions and Potential in North Africa

Following the liberalization of the telecommunications sector, many North African telephone operators invested in North Africa and in Sub-Saharan Africa. The only main North African operator venturing outside the African continent is Orascom Telecom Holding (OTH), of Egyptian origin. This company has also invested in Asian countries (Bangladesh and Pakistan) and Italy where it controls WIND, the third largest operator. OTH has shown an interest in the countries of the region; it has invested in mobile networks in Egypt (Mobinil), Algeria (Djezzy) and Tunisia (Tunisiana), and owns an undersea fibre link between Egypt and Algeria. OTH has recently merged with Russia's Vimpel Com to form the fifth largest global telecom operator and sold its Tunisian licence (Tunisiana) to QTEL, the Qatari operator.

However, it does not appear that these regional investments have been beneficial to users. Investments were not accompanied by decreases in fixed telecommunications costs or in roaming costs between the countries where these operators are licensed. By contrast, in other African countries operators are offering their subscribers rates on roaming services that are similar or close to those of a local call or a call to another network they own and operate. There are many examples, including Celtel (Zain), originally founded by a Sudanese and currently present in 17 African countries. Celtel allows its customers to make roaming calls at the price of a local call, receive calls at no additional cost and even refill their phones with phone cards of other countries (see box 1). Some operators have been inspired by Zain's experiment to do the same. Thus, Sudatel has introduced special rates for calls between Mauritania and Senegal respectively through Chinguitel and Expresso, its subsidiaries in those

Box1. "One Network" by Celtel, Zain Group

In September 2006, Celtel introduced "One Network", the first borderless network across Africa. "One Network" allows subscribers in Kenya, Uganda and Tanzania to move freely between these countries without having to pay roaming charges, to make calls at local rates, receive incoming calls at no additional costs and refill with local phone cards. "One Network" is automatically activated when the user crosses the geographic border into one of the six countries, without registration or fee. Celtel has announced that it is moving towards an integrated network in African countries where it operates.

In November 2007, "One Network" expanded its services from 6 to 12 countries by adding Burkina Faso, Chad, Malawi, Niger, Nigeria and Sudan to its network.

Currently, "One Network" includes 22 countries in Africa and the Middle East.

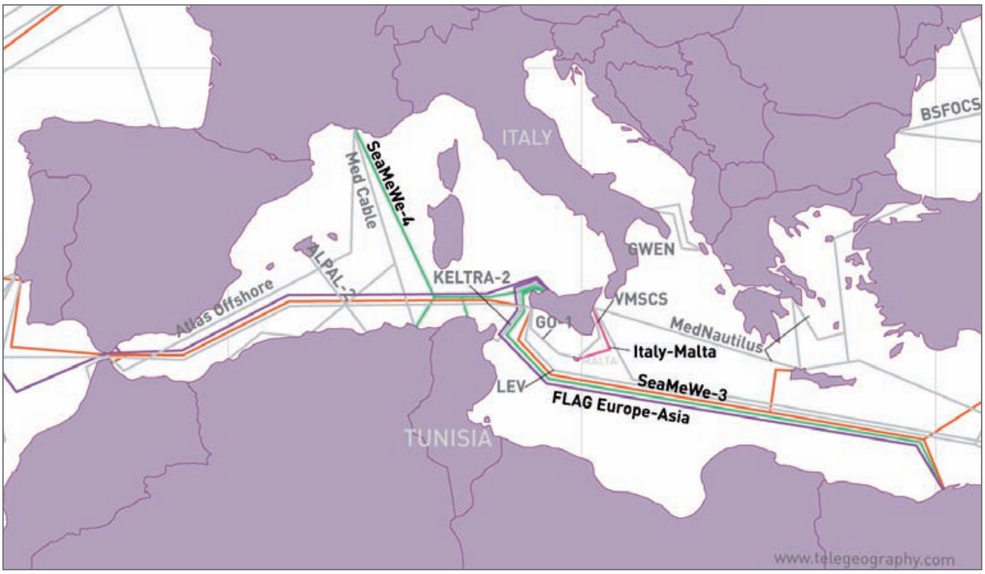
countries. Mattel, a Mauritanian subsidiary of "TunisieTelecom", by partnering with a Senegalese operator, offered a competitive price. However, it is should be noted that Tunisia Telecom did not deem it necessary to do the same for calls between Tunisia and Mauritania.

Major impediments to regional integration of ICT services in North Africa are the national regulatory authorities' weak capacity (particularly in economic and legal skills required to maintain competition) and the lack of harmonized regulatory approaches, despite the availability of the EU "Acquis Communautaire" as a model for regulatory standards. Some progress is being made on the latter issue. In conjunction with North African countries' neighbor agreements with the European Union, regulators are working to harmonize legislation, and adopt international standards as represented by EU directives. However, this work is being done on a one-on-one basis, with Europe dealing directly with the individual countries in isolation. A study on the harmonization of the legal and regulatory framework in the ICT sector was recently initiated by AMU, with AfDB support. The study, which concerns only AMU countries, will cover interconnection, licensing, numbering plan management, frequency spectrum management, universal access and service, the regulatory authority, e-commerce, protection of personal data and the fight against cybercrime. Its implementation would lead to a harmonized ICT legislation in AMU countries.

North Africa has a well-developed network of fibre optic cables that could be upgraded to improve services. The telecommunications networks of Algeria, Libya, Morocco and Tunisia are interconnected by a land fibre optic link. Communication between these countries and Egypt and Mauritania is either via an undersea fibre optic link or by satellite. Mauritania was recently connected to a fibre optic link serving West Africa via Senegal. An ongoing project in Morocco should connect Mauritania to Morocco by fibre optic cable in the next few years, facilitated by Morocco Telecom's majority holding (52%) in Mauritel, the incumbent operator. Morocco Telecom's fibre optic connection has now reached Dakhla and might continue to Senegal from Mauritania. On the Mauritanian side, the fibre optic connection reaches as far as Nouadhibou, on the northern border. The remaining distance between Dakhla and Nouadhibou is less than 450 km. Egypt and Algeria are directly connected by Orascom's fibre optic link.

North African countries are connected to underwater fibre optic cables linking them to Europe, the Middle East and even Southeast Asia. Some countries, like Morocco and Tunisia, have their own underwater fibre optic cables linking them to European countries with which they have high business traffic (see figure 1). A study has been initiated by the AMU with AfDB assistance relating to the missing links in the telecommunications network of North African countries. The study will highlight issues that should be taken into account in implementing a fibre optic-based broadband backbone for the Maghreb, including the status of telecommunications networks and services, the gaps and the requirements for establishing the network, as well as the environmental, economic, financial and institutional aspects.

Figure 1. Undersea Fibre Optic Cable in Mediterranean Sea



Source: Telegeography. The map was modified by the authors.

There is some potential for boosting exports of ICT-related services from North African countries. For example, cooperation among Moroccan and Tunisian firms involved in services and computer engineering could enable them to achieve sufficient scale to compete effectively in advanced country markets. A partnership agreement was signed in 2009 by representatives of the Association ICT professionals (APEBI) in Morocco, the global outsourcing company Infotica, the union of services and computer engineering companies in Tunisia (Chambre Syndicale des SSII) the Egyptian NGO e-Labs, and the professional association of IT companies in Egypt, to work together on the development of the software sectors in North Africa and jointly participate in markets inside and outside the region. Similarly, relatively good relations have developed between firms in Tunisia and Morocco, where operators from both countries have settled in each other's country. Also, Tunisian and Moroccan operators are active in Algeria. However, these examples remain quite limited and would need to be promoted and developed.

Firms in Egypt, Morocco and Tunisia have achieved some success in ICT and especially in business processing outsourcing (BPO). Those countries are now major destinations for ICT and BPO activities, and generally place above other African countries in international rankings of the quality of the business environment. However, these activities have been developed in isolation, and could benefit from the adoption of a common regional strategy.

All North African countries have formulated strategies and policies relating to research and development (R&D) and technology transfer for the ICT sector. However, these have been country-specific and not designed to foster regional cooperation. Some of the countries have cooperation agreements, but they are limited to the exchange of researchers or conduct of research trips abroad and do not include the financing of joint research projects. Moreover, country strategies are more concerned with logistics, setting up of laboratories and research units, recruitment of teams, and so on, than with the achievement of specific results. Indeed, laboratories and research units are evaluated more on the basis of the budget consumed or the qualified doctors they have than on the basis of papers published or research results actually achieved or even put on the market.

IV. Integration with Africa and the Rest of the World

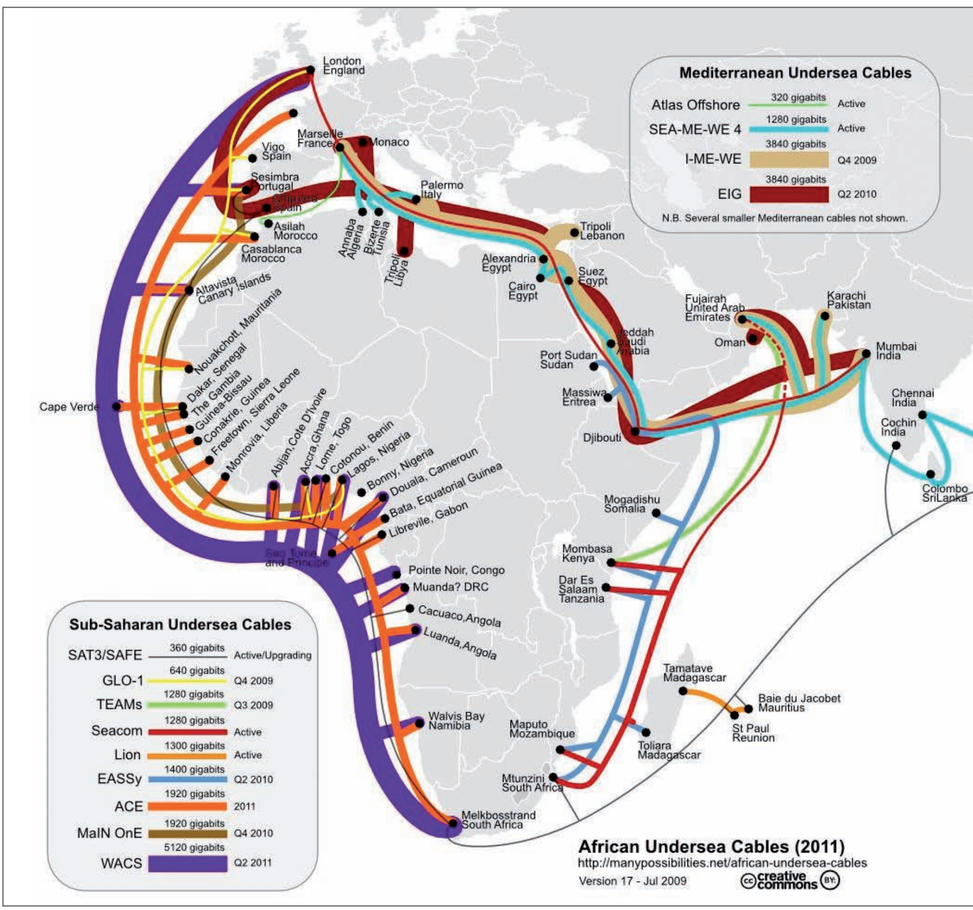
North African countries' historical experiences and linguistic ties have directed their efforts at integration to countries outside the region, with regional partners viewed more as competitors. Thus North African countries became highly dependent on European masters during the colonial period, and even following independence their economies were based primarily on agriculture and natural resources which they continued to sell mainly to Europe. While developing their industry (goods and services) to meet the needs of their domestic market, they continued to target Europe as a preferred export customer, ignoring the potential of regional markets. Today, the EU accounts for between 60 and 90% of exports from North African countries, and the same pattern holds for ICT activities ranging from software services to call centres. Algeria, Egypt, Morocco and Tunisia have a more or less well developed ICT and information technology enabled services (ITES) sector that allows them to be fairly well ranked in the studies conducted by the World Economic Forum and AT Kerney, but they have all primarily targeted their former colonial masters. Thus, French-speaking countries look primarily towards France and their English-speaking counterparts towards Great Britain.

Efforts to diversify markets have also been directed outside the region. For example, Egypt's linguistic and historical ties to the Arabian Peninsula has meant that trade agreements have been directed to the Gulf countries, and North African countries have sought to develop relationships through the consultation opportunities offered by the League of Arab States (although the GAFTA project is stalled). Similarly, a shared colonial heritage and (for Egypt with respect to the Nile Basin countries) common interests have led firms from Egypt, Libya and

Morocco to invest in Sub-Saharan African telephone companies, and firms from Egypt, Morocco and Tunisia to provide IT services in Sub-Saharan Africa.

By contrast, North African countries typically regard each other as competitors. For example, when France tried to impose restrictions on the outsourcing of call centres, each country responded unilaterally, that is, without, to the best of our knowledge, making the least effort for concerted action. In general, Europe has benefited from being able to discuss issues on a country-by-country basis, rather than dealing with a region with 170 million inhabitants as a single unit. Consultations among countries do occur, but more to exchange experiences than to seek common positions. North African countries could achieve greater progress in negotiations with Europe by adopting common positions.

Figure 2. Undersea Fibre Optic Cables Connecting African Countries



Source: Telegeography. The map was modified by the authors.

V. Regional Integration Program for the ICT Sector

The current Bank's support for regional integration is constrained by the lack of a financing vehicle for regional projects in middle-income countries. Thus existing projects are country-based, except for three projects provided under the public sector window. Two of these involve support for UMA to undertake studies (of the North Africa telecommunications backbone and the legal and regulatory framework for the ICT sector); a third is to establish an ICT Centre of Excellence in Tunis to conduct research for African governments and providers of specialized ICT services, and to train senior officials and decision makers in the ICT sector.

Two other country projects have been provided under the public sector window:

Egypt Navigation Satellite (NAVISAT). This is a feasibility study for a navigation satellite project to improve communications, navigation and surveillance with a view to enabling air traffic management services to provide cost-effective satellite communications and introduce major improvements in aeronautical services, thereby enhancing air transport safety and efficiency. Detailed feasibility studies started after the Bank's Middle Income Countries (MIC) Technical Assistance Fund (TAF) provided a grant of $900,000.

ICT Policy Dialogue between Tunisia and Republic of Korea (October 2009). The ADB is supporting consultations with the Korean Communication Commission (KCC) to discuss telecommunications policies. Four officials from the Tunisian Ministry in charge of ICT visited the KCC in Seoul to share experiences on telecommunication service market competition, infrastructure, convergence policies, market liberalization and regulatory systems. Areas of cooperation were identified and an implementation action plan is being discussed. Algeria and Egypt also have cooperation projects with Korea, and a project with Morocco is being prepared.

The private sector window has not funded ICT infrastructure projects specific to North Africa. However, it did finance three continental projects, namely:

Rascom. The Rascom project entails the construction, launch and operation of a new satellite to provide a pan-African telecommunication service. The sponsor of the project is an intergovernmental organization of African States known as the Regional African Satellite Communications Organization Members (RASCOM). This project was co-financed by Libya through the Libyan African Investment Portfolio and the Thales Alenia Space Company. After the launch of a first satellite which turned out to be defective, a second satellite was launched in 2010 and has become operational.

New Dawn Satellite. This project includes the design, construction, launch and operation of a pan-African communications satellite placed in orbit at 33 degrees east, an ideal position for serving the African continent. The satellite will comprise 30 physical transponders operating in the C and Ku frequency bands. It will provide services in Africa for cellular backhaul, Internet backbone and corporate networking, TV relay and broadcasting. The satellite was launched on the 22nd of April 2011.

O3b (The Other 3 billion). This project involves the design, construction, launch and operation of a constellation of Medium-Earth Equatorial Orbit Satellites and the further deployment of ground infrastructure. The O3b project, dubbed "The Other 3 billion", exclusively targets the provision of high-speed internet services to under-served populations in Africa, Asia and South America, where terrestrial infrastructure such as fibre optic backbones are conspicuously absent. By providing a transmission facility that combines fibre optic capacity with the flexibility of satellite systems - covering white areas (not serviced by a telephone network or Internet) or rural areas - the O3b project enables operators in emerging countries to access international bandwidth at competitive prices.

The private sector window has also financed several funds that have been involved in ICT projects. The private sector window has financed the Main-One submarine fibre optic cable linking Portugal and Nigeria, with a branching unit in Morocco and connections to Ghana, the Canary Islands, Senegal and Côte d'Ivoire. While there are no funds intended specifically for the ICT sector, the sector is generally included in the sectors funded and some ICT enterprises have developed at the regional level thanks to the funding.

VI. Conclusion: potential Areas for AfDB Participation in Regional Integration Activities in the Sector

The Bank could play a catalytic role. (i) by facilitating contacts between enterprises, (ii) by encouraging the development of regional markets, (iii) by improving the knowledge of markets for the benefit of economic operators, and ultimately (iv) through direct support for private investment.

Stakeholder interviews have identified key areas of support for the integration of the ICT sector in North Africa. Services and computer engineering companies (SSIIs) face particular difficulties due to small scale, lack of knowledge about potential partners and of a shared vision, language differences (use of English, French, and Arabic) that impair interoperability, and barriers to market access (particularly in Libya and Algeria). There are a few success stories of companies that have attained a critical size, but only perhaps 20 North African companies have more than 200 people on staff, a size considered small in Europe, USA and India. The establishment of partnerships or mergers among SSII firms is necessary to enhance capacity and develop new technologies.

Regional integration can also be achieved by identifying successful projects in different countries and replicating them in other countries. Examples include the CULTNAT project in Egypt, the land registry system developed for Egypt and subsequently implemented in Libya (contacts are underway with countries outside the region), and the e-government projects in Tunisia and Morocco.

Regional integration in North Africa should primarily be addressed in terms of facilitation, rather than infrastructure development. Indeed, the infrastructure of North African countries is relatively well-developed compared to other countries in the region, whereas trade remains limited.

North African countries would benefit from speeding up the implementation of regional integration in preparation for the effective implementation of free trade agreements with Europe. Almost all countries in the region have signed free trade agreements with the EU and within the framework of the Neighbourhood Policy. All these agreements have gradually phased out customs tariffs during a period of economic "upgrading", at the end of which European companies can compete directly with companies in the countries concerned. North African countries would benefit by concluding such agreements among themselves, which would enter into force a few years prior to those concluded with the EU. This could prepare local enterprises for competition, by gradually easing into direct competition with enterprises in the region, which are easier to compete with than European firms.

Main areas of AfDB support

Desired Reforms

In its dialogue with country authorities, the Bank should favour policy reforms to open regional markets; reduce regional prices for inter-regional calls and roaming (this will be facilitated by the presence of the same operator in various countries of the region); and implement a regional plan for consistent telephone numbers.

One project that the Bank could undertake would be to support the harmonization of the legal and regulatory framework in UMA countries. Areas to be addressed include: (a) inter-connection, (b) granting licenses, (c) management of the numbering plan, (c) management of frequency spectrum, (d) access / universal service, (e) regulatory authority, (f) electronic commerce, (g) e-government services, (h) personal data protection, and (i) cyber security and the fight against cybercrime. The Bank could convene working groups to cover specific regulatory issues, support an institution that would work for the convergence of the regulations and laws of member states, and assist UMA with the development of an ICT extranet. The Bank could also support a North African Fund for ICT regulation and harmonization, financed by resources from the private sector, member states' contributions and institutional donors such as ADB.

Capacity Building

Efforts to help build ICT capacity could include establishing mechanisms to share experience and facilitate the use of North African expertise (e.g. by organizing meetings of enterprises on the sidelines of fairs and other events, and by establishing a database), harmonizing training courses to facilitate student mobility, developing management training courses in the field of ICT and postal services (perhaps including the establishment of regional excellence training centres), and setting up regional specialised research centres, each of them having its own specialization and acting for the region (an example is the ICT African Excellence Centre planned in Tunisia).

Support for IT Companies and ICT industries

The Bank could boost its own procurement from suppliers and contractors in the region that meet the standards. The Bank could facilitate the establishment of ICT companies of the region in other countries of the region, thereby allowing them to access specific regional funds either directly from the Bank or through Bank-financed investment funds which emphasize the ICT sector. The Bank also could assist in the establishment of competitive regional clusters, similar to the ICT Centre of Excellence, through calls for expressions of interest and encouragement in setting up regional groupings.

Selected infrastructure projects that would fill missing telecommunications links include a North Africa satellite for data, voice and video (radio and television), which also would facilitate Internet access in remote areas; a regional postal package network (such as DHL) based on conventional postal networks; a land fibre optic cable between Ghadames in Libya and Debdeb in Algeria (which would secure connections between Algeria, Libya and Tunisia) and between Layoun and Nouadhibou, and a submarine fibre optic connecting all the countries. In addition, installing telecommunications lines along other infrastructure connections (roads, railways, pipelines), as part of regional integration in other sectors, could reduce the cost of telecommunication infrastructure by up to 40%.

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Efforts to promote regional integration in North Africa to date have often been constrained by political differences as well as diversity in economic performance, pace of economic reforms and openness, and disparities in legal and regulatory frameworks. Overlapping preferential trade agreements also emerged as a constraint to regional integration efforts on the back of complex rules of origin and a large number of 'behind the border' barriers. Together, these impediments have increased transaction costs. Importantly, the existence of these barriers reflects weak commitment to the integration process, as national governments have failed to translate decisions taken at the regional level into action at the country level.

In the wake of the Arab Spring, the emerging political landscape in North Africa promises to give new impetus to regional integration efforts, as new democratically-elected governments seek to promote inclusive growth and build institutions for good governance. The diversity of resource endowments in the region, coupled with the existing physical infrastructure, represent an important opportunity to further development through integration.

This book examines the key issues and challenges facing regional integration in the North African countries across a number of thematic areas including: (i) energy, (ii) climate change and environment, (iii) financial sector, (iv) trade facilitation and transport, (v) human development and, (vi) information and communication technology. It provides proposals for the Bank's continued engagement in the region, geared towards exploiting the full potential of regional integration in North Africa for the promotion of a new, inclusive, sustainable economic growth model.

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