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Knowledge production in Morocco:

Current realities and future prospects

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Knowledge Production in Morocco

Current Realities and Future Prospects

This paper conducts a SWOC analysis of the system of knowledge production in Morocco. The purpose behind this analysis is to take stock of existing strengths and opportunities, and to highlight existing weaknesses and future challenges for a knowledge based economy. In addition to the analysis, this paper examines how the literature on innovative knowledge production for continuous innovation societies (CIS) (Harkins & Kubik, 2006) could be of relevance to the development of unorthodox knowledge formats and applications that nurture innovative thinking as a way of life and not just as a component of education reform.

This paper starts with an introductory overview that touches on the geography, the people, the system of government, and the economy of Morocco. Next, it conducts a SWOC analysis that examines the strengths, weaknesses, opportunities, and challenges of the Moroccan knowledge production system. The final section in this paper focuses on innovative education reform for a knowledge producing society. This section tries to synthesize some of the literature from the LeapFrog Institutes, Harkins and Kubik (2006), Verna Allee (2003), and the Flaxo Mexico Open Seminar blog and slides. The goal is to suggest some best practices for what a creative Moroccan knowledge producing society could look like.

General Overview of Morocco

Contemporary Morocco is probably best known to Americans for the 1943 Hollywood classic *Casablanca*. However, perhaps fewer Americans know that in 1777, Morocco was the first nation to recognize the newly independent United States of

America, and to sign with the new nation one of the first treaties of friendship formally ratified by the U.S congress in 1787 (Rivlin, 1982).

Morocco is located on the north west of Africa. It stretches over an area of 710,850 square kilometers (274,132 square miles). It is bordered by the Mediterranean on the north, the Atlantic Ocean on the west, Algeria on the east, and Mauritania on the south. According to the Moroccan Haut Commissariat au Plan (the national office of planning), Moroccan population as of May 2008 has reached 31,137,188. 30.5 percent of this population is within an age bracket of 0 to 14; 64.3 percent are between 15 and 64, and 5.2 percent are 65 years and over. 44 percent of the population still lives in rural areas.

At the political level, Morocco is a constitutional monarchy. According to Al-Arkoubi and McCourt (2007), even if Morocco is a multi-party democracy, the king has the constitutional right to select the Prime Minister, the heads of key ministries such as the Ministry of Interior, External Affairs, and Islamic Affairs. He also appoints regional governors. The central executive role of the monarchy in Moroccan politics, for Al-Arkoubi and McCourt (2007), though active in nurturing consensus building; has contributed to a quietist and clientelist political environment where

Individuals are ...reluctant to commit themselves irrevocably to any single aspect of their identity, as that might preclude emphasizing another aspect that might be to their advantage later on; and by extension, reluctant to nail their colours to the mast of a single policy, as they might need to espouse a different one later on.

(p. 982).

At the economic level, Morocco is a low-middle income country. It is the world's biggest exporter of phosphates with 43.5% of the world market in raw phosphates, 47.2

percent of phosphoric acid, and 9.5 percent of world production in fertilizers. With up to 7.4 million tourists in 2007, Morocco is poised to reach 10 million tourists by 2010. At the macroeconomic level, the World Bank (2006) recognizes that the fiscal responsibility of Moroccan policies has resulted in low inflation, positive balance of payments, high reserves in foreign currency, and low to moderately declining external debt.

Paradoxically, the macroeconomic positive performance did not translate to visible reduction of unemployment, poverty, and regional disparities. Given that agriculture still represents 40 percent of the country's GDP, the Moroccan economic growth rate is highly vulnerable to drought. Accordingly, economic growth dropped from 6.7 percent in 2006 to 2.1 percent in 2007 and a 1.5 percent in 2008 due to drought and high oil prices (CIA, 2008, and World Bank, 2008).

In brief, the goal of this overview is to understand the broad setting within which I examine the prospect of a viable knowledge producing economy. The next part of the paper conducts a more focused analysis of the strengths, weakness, opportunities and challenges for a continuous innovation Moroccan society.

Moroccan Knowledge Production: A SWOC Analysis.

Strengths

Two main factors underlie the strength of knowledge production in Morocco. The first factor is an existing human capital of highly trained Moroccan knowledge workers, and well-respected research centers that have continentally positioned Morocco as the number three science producer after South Africa and Egypt (Kleiche, 2000). The second factor is a growing entrepreneurial leadership at the governmental and business level that is aware of the potential of technology-intensive industries.

Knowledge production human capital and research centers

The Index of Technological realizations in Morocco in the period between 1960 and 2000 has progressed to 0.2%. This ranked contemporary Morocco as a dynamic adopter of technology (Driouchi, 2005). This can largely be credited to its researchers and research centers.

Moroccan researchers.

The category of Moroccan researchers includes university researchers, teachers in training institutes, and researchers in public and private firms. Bennaghmouch (2006) estimates the current number of Moroccan researchers at 10,000 university researchers, 2,000 researchers in professional training institutes, and 3,000 researchers in public and private institutes and firms. Amongst university researchers, 40% percent are in hard sciences, 28 percent work in engineering, 25 percent are in social sciences, and 7.5 percent are in medical fields.

Moroccan expatriate researchers constitute another repository of knowledge capital. Between 1990 and 1995, Bennaghmouch (2006) estimates that one in every ten Moroccan university students are pursuing their studies especially in Europe and increasingly in the U.S. and Canada. Given the relatively substantial ratio of researchers already working in Morocco, and in view of the limited effect of such resources on the employees' productivity per GDP, leveraging knowledge economy in the overall Moroccan economy may not be as limited by a supply of human resources as it may be a problem of optimization of existing resources and preparing a competitive research framework that is conducive to innovation.

Research centers.

The public sector funds 90 percent of research in Morocco. The semi-public sector funds 9 percent, and the private sector only funds 1 percent. Governmental agencies such as Institut National de la Recherches Agronomique (INRA), (National Agronomic Research Institute), Bureau des Recherches et des Prospections Minières (BRPM), (Mineral Surveys and Research Bureau), and Laboratoire Public d'Etudes d'Essais (LPEE) (Public Research and Testing Laboratory) are leading publicly funded research agencies.

Morocco's research centers have been instrumental in informing national policy about strategic sectors such as agriculture, water management, and energy. In the following table, I have listed Morocco's leading research centers with their annual budget in European Currency Unit.

Institute or research centre	Field	1996 budget (millions of ECU)	Number of researchers
École Mohamédia des Ingénieurs, Rabat	Space technology	0.03	12
REMINEX-ONA, Casablanca	Mining operations	0.93	8
CDER, Marrakesh	Renewable energy	0.93	34
CNESTEN, Rabat	Nuclear technology	3.71	40
El Jadida Science Faculty	Marine science	0.02	15
CERPHOS-OCP Casablanca	Mining	0.93	ND
LPEE, Casablanca	Environment and water	3.71	140
IAV, Rabat	Agriculture	0.49	120
INRA, Rabat	Agriculture and life sciences	6.00	120
Pôle Compétence Qualité	Environment and water	0.05	25

Source: R&D Systems in the Arab States, UNESCO, 1995. Retrieved on December 20, 2007 from: http://www.idrc.ca/en/ev-41633-201-1-DO_TOPIC.html

Despite the considerable contributions of these research centers, the diffusion of innovation in Morocco is still constrained by inefficient coordination, shortage of funding, and a suboptimal system of innovation. However, and starting from a 2006 industrial strategy government plan, dubbed “Programme Emergence” [Emergence Plan] (Cugusi, 2008), there is an increasingly proactive role of the governmental and entrepreneurial leadership in defining the vision and mission of knowledge producing systems in Morocco.

The role of political and business leadership in knowledge economy.

Having completed the IMF Program of Structural Adjustment, the Moroccan government put together an emergence plan that designates the most promising areas of economic growth (Belouas, 2007). However, it seems that the recommendations of the report were ahead of the infrastructural readiness of the country to support economic take-off. During a period of ten years, large investments were undertaken to improve physical infrastructure, upgrade telecommunication, and introduce institutional reforms that increase Morocco’s attractiveness to international investors.

The ten year lag between the late 90s governmental emergence plan recommendations, and the renewed 2005 commitment to this strategy based on the study conducted by McKinsey consultancy of Competitive Morocco (Agoumi & Benmansour, 2005) could be attributed to the need to lay adequate groundwork for the new vision of development to materialize. Morocco’s new emergence strategy centers around consolidating its know-how in classical industries such as food industry, fisheries, textile, chemical industry, pharmaceutical industry, and tourism while building a competitive

advantage in high added values niches such as off-shoring, automotive low-cost industry, aeronautics, and specialized electronics (Cugusi, 2008) .

The leadership vision of the catalyzing role of knowledge intensive industries has crystallized around the concept of creative industrial clusters built to optimize regional human and physical advantage in an export driven economy (The Mitchell Group, 2003). In this regard, “Electronic City” and “Automotive City” in Tangier are the two most recent cluster concepts that build on the 14 kilometers proximity to Europe and the modern facilities of Tangier-Med port, one of the 15 largest ports in the world. The “Aeronautic City” in Casablanca is an export oriented hub that hosts national and international ventures intent on upgrading Morocco’s contribution from a parts’ outsourcer to a manufacturer of entire aeronautic systems (Agoumi & Benmansour, 2005). The expected revenue from aeronautic industry by 2012 is around 15 billion Dirhams (roughly more than two billion U.S dollars). In addition to these two cities, the Food Industry clusters in Meknes-Fez and Al-Gharb (respectively located on the North East and North West) were also set up to optimize natural assets of these fertile regions in organic, processed, and pre-cooked food. Finally, Agadir, on the southern part of the Atlantic Ocean has the natural, infrastructural, and human endowment to maximize the competitive advantage of Morocco in the fishing and sea-food processing industry.

Notwithstanding the promising potential of the Emergence Program, clear commitment to investment in Genetics, Nanotechnology, and robotics at least in the form of collaboration between the government, research institutes, and investors is at its embryonic stage. According to Le Matin (2006), officials aim to attract Moroccan expatriate engineers and existing multinational firms to launch nanotechnology, micro-

technology, and biotechnology ventures in collaboration with existing universities and research institutes. In this respect, some government leaders are aware of the urgency of jumping on board of high technology before this historic window of opportunity closes as well. Therefore, they set a deadline of two years for establishing these centers in the technological cluster in Rabat-Sale. Hopefully, the increasing attractiveness of Morocco in areas as pharmaceuticals, high-tech electronic, and aeronautics could be the gateway to research and development in genetics, nanotechnology, and robotics as they apply to these respective industries.

Weaknesses

If I use Kurzeil's (2005) advances in genetics, nanotechnology, and robotics as proxies for Morocco's readiness for knowledge economy, there is a risk that if the country waits to up-grade its educational, economic, political, and cultural systems to meet the standards of knowledge producing societies, the opportunity will have already been missed. As I explained earlier, a political culture that still largely deifies leaders and heresizes alternative versions of history constitutes, in my opinion, a serious hurdle to innovation, and critical thinking as a way of life. One sanctuary where Morocco could prepare leaders, not subjects, is its formal, non-formal, and vocational educational system. As it is now, there is almost a consensus that it is in serious trouble.

Moroccan educational system

This section describes weaknesses of the Moroccan education system at the level of the national literacy rate, the national public system, and vocational schools.

Literacy rate.

Compared to other countries in the Middle East and North Africa (MENA), Morocco has one of highest illiteracy rates in the region. According to the National Department of Literacy and Non-formal Education (2007), 43 percent of the population aged 10 and above is illiterate. 60.5 percent of this population is in rural Morocco. 54.7 percent of the illiterate population is female and 74.5 percent of them are concentrated in rural areas. Compared to 1994, there is marked progress to reduce illiteracy. However, this progress is still far below the world average of 20 percent (Zouhar, 2005).

The public education system.

In its May 11, 2008 issue, the daily Moroccan newspaper Attajdid reported on a conference on the state of national education where Dr. Ahmed Akhchichine, the Moroccan Minister of National Education noted that 75 percent of schools lack drinking water, 60 percent lack electricity, and 80 percent of schools lack adequate latrines. The newspaper further reported that the Minister of Education estimates absenteeism amongst elementary and secondary school teachers to have reached 2 million days of absence, which represents a financial leak that is enough to build 100 lower secondary schools. Such a damning verdict by the head of the Ministry is an indicator of the scope of disrepair of the Moroccan public education system.

According to the World Bank Middle East and North Africa flagship (2008) report on education, Morocco is an underperformer in the integrated index of access, equity, efficiency, and quality. The report notes that Morocco scored particularly low on the 2003 TIMSS math tests. Even if the government spending on education, as a percentage of the national budget, is one of the highest in the MENA region, the survival

rate to grade 5 in 2002 reached 75.6 percent, the repetition rate is 13.8 percent in primary education and 16.4 percent in secondary education (World Bank, 2008). As a result of this inefficiency, only 12 out 100 students who enroll in primary education reach the university. Out of these 12, no more than five receive a diploma (Achy, 2002).

With regard to university education in Morocco, even if the 1999 education reform has emphasized the leadership role that universities play in knowledge production, it is not clear how much independence Moroccan universities have in transforming to powerhouses that could lead knowledge production in their respective regions. At present, and using Harkins & Kubik (2006) taxonomy, it seems that the Moroccan university campuses could be divided to three categories: A retro-campus that “Reaffirms consensual past and works to protect students from the shock of reassessed histories” (p. 89). An existential campus that is market immediate. And a tactical campus whose innovation is limited to the near and projected future.

Underperformers according to the World Bank are still mired in the existential level of achieving universal access to education and retaining children in schools. No wonder, then, that with an educational system on the survival mode, its inefficiency with regard to the labor market is double-sided. First it is largely incapable of preparing labor workers that can staff high-tech start-ups. Second, it has not been particularly prolific in producing entrepreneurial individuals who could lead knowledge intensive firms.

An under-developed research and development corporate culture.

Contrasting the grand goals for bolstering knowledge economy with the generally low performance of the Moroccan educational and training system (World Bank, 2006, 2008) begs fundamental questions about what could spur sustainable growth in Morocco:

Is it more aggressive investment that results in professional development and training and therefore more skilled workers, or should higher education professional and academic institutes take the lead in preparing qualified resources for investment to expand?

In this section, I posit that a business leadership model that integrates corporate citizenship, local development, national development, and innovative business practices is still a work in progress. Out the 90 percent of Moroccan small and medium sized enterprises, few privately owned groups are substantially invested in scientific research (Khrouz, Hajji & Boussetta, 2000). Bouoiyour (2003) notes that firms have largely relied on low-skilled workers, in a low-tech and low quality protected market. In terms of the schooling level, the current situation may be more comparable with Sahel countries than with MENA countries.

In summary, high illiteracy rates, an underperforming educational system, and very limited investment in research development of Morocco's largely small and medium companies have created a supply and demand situation where the educational system is not adequately prepared to supply highly skilled knowledge workers, and where the labor-intensive market has not developed enough capacity to switch to knowledge intensive production. In such an environment, it is hardly surprising that amongst the educated active population, unemployment rate in 2002 reached 34 percent for active population with a high school diploma and 32.2 percent for university graduates.

Amongst these graduates 40 percent are holders of a bachelor's degree (Bouarbat, 2005).

Opportunities

Initially, this paper was meant to be a comparative study between Morocco and India. Despite the immense differences in size, I found the daunting problems that India

is facing in terms of education, poverty, disease more of a source of inspiration than a cause of despair. With regard to education, Kamdar (2007) notes that “of an estimated 140 million children in primary school in India... 30 million cannot read, 40 million cannot even recognize an alphabet, and 55 million will not complete even four years of school.” (P. 203). Commenting on the school infrastructure, point out that 75 percent of Indian people do not have access to drinking water and 55 percent do not have access to electricity. Despite this handicap, India is the second fastest economy in the world. According to Kamdar (2007), emergent India treats these gigantic problems as gigantic opportunities. If India with its adversity of immense proportions could be a full player in the knowledge economy, there is no excuse for Morocco, which is ranked higher on both GDP and Human Development Index, to vegetate in a slow growth rate.

Morocco’s opportunities to transition into knowledge production society are numerous but probably not everlasting. The reputation of Morocco as a peaceful and beautiful country is a major attractor to international investors and tourists. Geoeconomically, the country is only nine miles far from Europe. It is bordered by the Atlantic Ocean and the Mediterranean which could allow it to build more free zone platforms that serve Europe and the U.S.

Given their diverse history, demographic composition, and the large number of Moroccans in Europe, Canada, the U.S, and the Middle-East, many Moroccans are either bilingual or multilingual. They have a cosmopolitan and multicultural outlook that makes them at ease with diverse languages and cultures. It is no wonder, therefore, that half of the French telecommunication companies are outsourced to Morocco (World IT Report, September, 2004).

Linguistic skills, political stability, and proximity to Europe are major opportunities that would make a case for further investment in Morocco. However, and except for the linguistic skills, the other advantages would not necessarily translate into ventures that promote knowledge production. In this regard, the few visionary business and political leaders should demonstrate more pro-activity in catalyzing the natural and human endowments into the creation of centers of excellence that attract foreign investment but above all promote endogenous intellectual capital.

One area, to start with, is to leverage the fact that 85 percent of the engineering and consulting services are imported (Kleiche, 2000). This represents 1.6 percent of GDP. Even if needs vary from one sector to another, overall Moroccan engineering satisfies less than 20 percent of national demand. This represents a massive growth opportunity for knowledge economy that waits to be tapped. Notwithstanding the sense of urgency that some Moroccan officials have demonstrated at least in their public interviews (Le Matin, 2006), I hope that the political and the business leadership has a strategic appreciation of the real national potential of commitment to the diffusion of cutting-edge genetics, nanotechnology, nuclear technology, and robotics. I believe that if government policy relies only on international investors to develop only aspects of these technologies that are relevant to the export oriented products or services, the technological spillover might not be relevant to long-term national development goals. In this respect, as a developing country, Moroccan human development is contingent on transforming the following challenges into engineering opportunities:

1. Energy storage, production, and conversion
2. Agricultural productivity enhancement

3. Water treatment and remediation
4. Disease diagnosis and screening
5. Drug delivery systems
6. Food processing and storage
7. Air pollution and remediation
8. Construction
9. Health monitoring
10. Vector and pest detection and control

(Singer, Buentello, and Daar, 2005, p. 58)

If the focus for the short term is on providing incentives to high technologies to be established in Morocco, my contention is that without a clear national and hopefully regional strategic vision of the relevance of these technologies to national and regional development, the potential dividend of such adoption will only be restricted to a small elite whose prosperity depends on replicating exogenously conceptualized specs instead of endogenously creating their own concepts and designs.

The most pressing lesson that Morocco, and for that matter, all developing countries must learn is that being an outsource destination is certainly a step towards growth, but if the country does not have the intellectual and human endowments to be an additive transformer instead of a low cost mass replicator, this advantage will soon erode. For this reason, a strategic vision that is committed to innovation is of utmost importance for Morocco's future viability. In this respect, clear national commitment, and intelligent use of incentives to leverage investment in genetics, nanotechnology, nuclear technology, and robotics as they apply to the fields listed by Singer, Buentello, and Daar (2005) will

galvanize support for public and private research institutions who work on things that make money, but most importantly, on things that matter to local and regional human development.

Finally, in addition to the national public and private effort, the huge financial and human resources that need to be committed for these projects are probably far beyond what a country on the mid-low income bracket could afford. And given that FDI might not always be motivated by local human development, South-South cooperation, is a seldom tapped opportunity for pooling the funds and the brains for local human development. In the face of a powerful European Union that invests billions of Euros on nanotechnology centers, and an equally massive investment in huge blocs such as North America, China and India (El Naschie, 2006), miniscule players such as Morocco, Algeria, Mauritania, Libya, Tunisia, Egypt must consolidate their disparate initiatives in high technology investment especially given that their challenges are almost identical. Creating poles of specialization in each of these six countries with free circulation of funds, brains, equitable distribution of dividend is ideally the most cost effective way of indigenizing knowledge production in high technology and transforming from low cost information sweatshops into wealth generating sustainable knowledge powerhouses.

Challenges

The World Bank (2006) ranks Morocco amongst the countries where business offers the least training, which therefore affects the country's capacity to compete and innovate. Deficient professional training, in turn, raises questions about how proactive the Moroccan government is in providing incentives to foreign and local firms to incorporate advanced and continuing training for job-seekers especially in knowledge intensive

industries. As it is now, on a scale of one to seven, the Moroccan score according to the World Economic Forum Competitiveness Report (2007) is 3.5 in higher education and training, 3.3 in technological readiness, and 3.3 in innovation.

In addition to deficient training, Kleiche (2000) warns of looming challenges that are increasingly weighing on Moroccan researchers abilities to conduct world class research. According to an investigation conducted by the Moroccan National Center of Scientific and Technical Research, Kleiche (2000) reports that the lack of maintenance for high tech machines has resulted in a situation where between 45 and 100 percent of heavy machines are out of order. She further notes that university researchers feel neglected by the university administration and the national government. This results in a situation where scientific research is often a personal endeavor conducted by the researcher instead of being done in coordination with a research team as a part of broader university strategy. Given the limited means, lack of visibility, disconnect with the labor market, Moroccan researchers often focus more on theoretical physics, mathematics, or biology instead of applied equipment-intensive research.

Compounding the training and the research center challenges, Morocco faces serious environmental and food threats that can erode its frequently vaunted social peace. A major criticism of national organizations such as national parties, labor and student unions, and international organizations such as the United Nations Development Program is that macroeconomic and political stability has not spilled over to higher indices of human development, more employment, less regional disparities, and less poverty. If Moroccan citizens do not view a tangible impact of innovative projects on their wellbeing, it may be hard to persuade them to make more sacrifices toward the education of their

children, or towards investing in their own retraining for knowledge intensive jobs. In the worst scenarios, marginalization might breed pockets of disaffection and alienation that would threaten the open and innovative model of knowledge production that is crucial for passage to the 21st century.

What Leadership Model for Innovative Morocco?

The SWOC analysis of knowledge production highlighted Morocco's strengths in qualified human capital, research centers, and an emergent political and entrepreneurial leadership that is aware of the need to innovate in order to survive in the 21st century. It has also pointed to some troubling weaknesses pertaining to a centralized political system that does not promote local and regional leadership, a low performing educational system, a university system that offers retro-campus, existential campuses and tactical campuses, and a weak labor market where very few national enterprises are involved in research and development.

Morocco is, however, not alone in the disturbing weakness of its educational system, countries with much worse systems such as India have developed innovative strategies for leapfrogging to the rank of knowledge producing societies. The Moroccan weaknesses of the knowledge production system should not eclipse the geoeconomic, multilingual, and multicultural opportunities inherent in the location and demographic diversity of Morocco. These opportunities could be leveraged thanks to an emergent generation of visionary leaders who are capable of treating Morocco's weaknesses and challenges as opportunities for endogenous innovation. Finally, the analysis pointed out that Morocco faces numerous professional, technical, natural and economic challenges that could dampen its strengths and opportunities if the few victories in attracting capital

do not spill-over technologically and economically to address the pressing human development problems of unemployment and poverty.

One lesson to draw from this summary is that no specific sector holds the silver bullet that would catapult Morocco to the rank of knowledge producing and continuous innovation societies. I would, however, emphasize the crucial importance of visionary leadership in leading this change. In this respect, I believe that the challenge of changing Morocco into a well connected web of highly intelligent and adaptable innovation cells is not beyond reach if the country's political, business, and educational leadership realizes that:

- Knowledge and export intensive industries are unlikely to build and actualize capacity if they are not accompanied with a national vision of human knowledge development
- Promoting local entrepreneurship either through internship experiences with knowledge start-ups, or study abroad programs is crucial for indigenizing innovation and socializing intelligent workers who are comfortable with multiple realities.
- Investing in niches and differentiating advantages must supplement geopolitical and linguistic advantages.
- A system that nurtures risk-taking and responsibility is a growth-enabling system that should be promoted through formal and informal education.
- Learning is a life long process
- Volunteering at the personal and business level is a sign of stewardship and true citizenship, it should be recognized, and publicized, and rewarded.

- Very centralized undemocratic systems encourage mediocrity. They shield civil servants and entrepreneurs from public accountability. The result is a corrupt public system and an uninformed and resigned populace.
- A system where schools, training centers, parents are entitled to free access to information and free expression of opinion expands the scope of education responsibility to parents and the community. As a result, education would not be limited to formal institution; it would be a process that everybody engages in and is accountable for.
- A society where reflective reading is as valued as reflective gaming and where libraries, museums, theaters, and all other forms of intellectual and aesthetic enrichment are supported is well poised to be a continuous innovation society.
- A society where citizens see themselves as citizens and not subjects provides the climate for efficacious risk-takers instead of grateful fatalists.

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Appendix 1

Table 1

2.1: Competitiveness Profiles

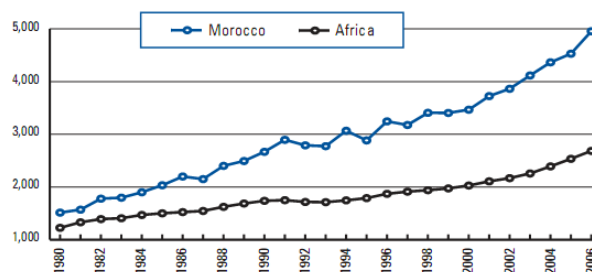
Morocco

Key indicators

Population (millions), 2006.....	31.9
GDP (billions, current US\$), 2006	57.4
GDP (PPP US\$) per capita, 2006	4,956
Sectoral value-added (as percentage of GDP), 2004	
Agriculture.....	19
Industry	36
Services	45
Human Development Indicator rank (out of 177 economies), 2004	123

Source: UNFPA, IMF, EIU, UNDP

GDP (PPP US\$) per capita, 1980–2006

Retrieved on May 1, 2008 from <http://www.weforum.org/pdf/gcr/africa/morocco.pdf>