

Introduction

Knowledge is no longer a luxury that can be ceded, as it constitutes one of the basic pillars of comprehensive and sustainable human development in this era. This report has addressed the general status of the transfer and localisation of knowledge in the UAE and the nature of youth participation in this central development process. It has built on what was adopted by the previous Arab Knowledge reports, which emphasised knowledge transfer and localisation as an entry point and a fundamental requirement for achieving human development in all its dimensions. The first chapter of this report discussed the most important concepts of the transfer and localisation of knowledge within the understanding that “knowledge” goes beyond technological realms to include science and innovation in literature, arts and humanities and accumulated human experiences. In this era of globalisation, openness and communication, human development with its various requirements and dimensions can only be achieved on the basis of the transfer and localisation of knowledge which has become, in terms of inputs and outputs, a key element in bringing about progress and human welfare. For countries aspiring to assume leading positions in the 21st Century, the transfer, localisation and employment of knowledge in human development are essential prerequisites. There is no doubt that the UAE is one of these countries. UAE’s drive towards progress to catch up with the developed countries and compete with them in leading positions is evident through many adopted policies and initiatives, including UAE Vision 2021. This represents a fundamental building block in the quest for the transfer and localisation of knowledge and the achievement of effective integration of young Emiratis in this pivotal development process.

Therefore, the conceptual model adopted in this report for the transfer and localisation of knowledge was based on the interrelationship between two foundations: “the provision of the cognitive capital,” represented in human resources capable of transferring and localising knowledge; and “the provision of

required enabling environments” including legislation and supporting institutions. The basic tools required for knowledge transfer and localisation should be provided through these two foundations, including institutional, legislative, cognitive and financial instruments. These foundations, along with their instruments and tools, will lead to the localisation of knowledge through an integrated triad at the centre of which are essential mechanisms including information technology, motivation, materialistic and moral incentives, openness and communication, global and regional partnerships, translation, as well as evaluation and follow-up. According to these concepts, knowledge transfer processes are merely a phase on the way to the ultimate goal of localisation of knowledge.

Based on the weaknesses and strengths analysis, the report identified UAE standings on the most relevant indices, particularly the Knowledge Economy Index. These indices demonstrated the relentless efforts and high levels of readiness in establishing the knowledge society. Results show that among emerging states, the UAE is one of the leading countries in terms of spending and investing in infrastructure. In a short period of time, tangible achievements have been witnessed in the country in various arenas including information technology infrastructure, which pave the way for establishing and building the knowledge society. The UAE ranked first in 2012 among Gulf and Arab countries on the Knowledge and the Knowledge Economy indices with 7.09 and 6.94 respectively, and ranked 42nd worldwide among 145 countries, going up six positions compared to 2000 rankings.¹ It also ranked third among Arab countries and 40th globally on the Human Development Index in the 2014 report. The UAE also ranked first among Arab countries and 14th globally on the Happiness Index issued at the beginning of 2014.² The same is true for the Global Innovation Index, on which the UAE ranked first among Arab countries and 36th globally.³ These indices clearly indicate UAE’s rapid advancement towards leading positions in the fields of knowledge and development.

For countries aspiring to assume leading positions in the 21st Century, the transfer, localisation and employment of knowledge in human development are essential prerequisites. There is no doubt that the UAE is one of these countries

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However, this progress is not devoid of challenges for the transfer and localisation of knowledge and the efficient integration of the Emirati youth in these processes. The report highlighted these challenges; in education development to align with the requirements of knowledge societies; human resources, including the current demographic challenge; the current economic structure based on the rentier economy; and finally, motivating the youth to use and to invest in available opportunities effectively. The educational challenge for the youth in the UAE is diversified and involves several key issues, including the decline in the perception of education, traditional teaching methods, the lack of diversity and balance in the selection of specialisations, as well as the weakness of the outputs of university education and incompatibility with the labour market.

As for the challenge of human resources, it is primarily associated with the small number of citizens relative to residents in the country, and citizens' preference to work in government sectors rather than in the production and private sectors. Given the strong relationship between knowledge economies and the production and economy structure in general, the continued reliance on oil as a major resource for the country at the expense of diverse production sectors with the highest cognitive added value is an important economic challenge in establishing a knowledge society in the UAE. Motivating Emirati youth to participate actively in this area is another major challenge. Despite the considerable opportunities available to them, the majority of Emirati youth prefer stable administrative jobs that provide high financial returns in the public and private sectors, with very few choosing the production sectors that are related to the transfer and localisation of knowledge, especially those related to innovation, research and technology.

Important Results of Field Investigations

This report is distinguished by qualitative and quantitative field surveys. These surveys

shed light on the status of young Emiratis and their aspirations and readiness to engage in the knowledge society and the knowledge economy. The representative sample of youth participants in the field surveys was selected from students in their final year of university. Participants showed enthusiasm and a clear interest in seeking to establish a knowledge society and a good level of cognitive skills in general. However, there were some gaps that should be addressed. One such gap was "written communication skills", in which students demonstrated an average level, both in Arabic and a foreign language (English).

As for values, the Emirati youth demonstrated much higher levels of readiness compared to cognitive skills, where the results of the field survey indicated positive attitudes towards cognitive, emotional, social and cosmic values. This is considered a good indicator that can be built upon, provided that these values are embodied in beliefs and daily practices that help young people contribute to the processes of transfer and localisation of knowledge and to the establishment of the aspired-for knowledge society. In contrast, analysis shed light on the weakness of the youth's social effectiveness and to a lesser extent cultural effectiveness. However, economic effectiveness was at an acceptable level. These results merit attention, given that such weakness, especially in social effectiveness, may have a negative impact on the establishment of the knowledge society. Social, cultural and economic participation are among the basic pillars of communication within society and are crucial in attempts to move towards a higher developmental stage. The perceptions of some young Emiratis seemed striking with regards to the subject of the transfer and localisation of knowledge; they stated that this issue did not fall within their current concerns. However, at the same time they acknowledged that the processes of transfer and localisation of knowledge were vital to the future of the country, and pointed out its positive effects on the economy and society, and in turn on stimulating creativity and reducing social disparities and unemployment.

Although the concept of citizenship was acceptable among students, the results indicated a need to increase efforts to instil relevant means and practices and increase awareness to strengthen the concept through realistic daily-life attitudes and practices, which were found to be insufficient among many of the participating university students. This can only be achieved through spreading a culture of positive citizenship starting from childhood. Educational and other institutions in society should be given the opportunity to exercise the various dimensions of the citizenship concept, in such a way that they become part of the consciousness at individual, social and global levels. The results of the field study also indicated a deficiency in one of the main requirements of the knowledge society and the knowledge economy; openness and communication among university students in the UAE. This result comes despite the wide use of social media and young people's possession of technological devices at university and at home. In this context, we should highlight the responsibility of the university as an institution that should connect students with social and youth organisations, such as training and capacity-building institutions and research institutions at home and abroad.

A considerable proportion of the students and stakeholders expressed low levels of satisfaction with the university education system, particularly in relation to academic research, both in terms of material and moral incentives provided to students, as well as the vocational training system and research activities during studies. These results are very important as they represent a sample of the challenges facing the transfer and localisation of knowledge and the ability of young people to contribute to it.

Facing Challenges

There is strong potential for the transfer and localisation of knowledge in many areas for the UAE to establish the desired knowledge society and economy. There are no economic, political, cultural or technical obstacles that prevent from paying adequate attention to

this subject. On the contrary, it could be said that the UAE has a historical opportunity to confront the major challenges of developing education and scientific research, limited human resources, demographic conditions, diversification of the country's economic structure towards production systems of higher cognitive added-value, and finally to motivate the Emirati youth to take advantage of the available opportunities and efficiently integrate in the processes of transfer and localisation of knowledge.

Facing the Educational Challenge

The educational challenge starts from the early stages of pre-university education in more than one aspect. The scores of Emirati students in international tests such as the TIMSS and PISA in reading, science and mathematics were still lower than the average scores of students in countries with an advanced economic level or even countries of an average economic level.⁴ The educational challenge persists in subsequent stages among the youth, though in different ways.

While many countries are moving towards adopting learning approaches based on research, problem solving and critical thinking – the skills required in the knowledge society – traditional teaching methods are still prevalent in most of the country's educational institutions. Universities and higher education institutions failed to produce the required critical mass of “knowledge workers” who are able to generate knowledge products such as software or patented inventions, or publish books and conduct research.⁵ Moreover, the outputs of the educational system do not conform to the requirements of global economic changes that require high-level skills matching the knowledge economy and globalisation.⁶ Two-thirds of university students specialise in social and human sciences at the expense of other specialties that have direct relation with transfer and localisation of knowledge, including scientific fields and mathematics.⁷ ⁸ Many researchers criticised the weak role of education in the country towards

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Flexibility at the wider level of the educational system requires the establishment of a decentralised management system that provides the freedom of choice for teachers in what they teach, flexible training opportunities, trust between teachers, administrators and managers and the decentralisation of operations. Flexibility also includes an evaluation system that encourages competition between students. However, these processes must not overlook the standard policies of teaching and learning to increase achievement

establishing the knowledge society and the knowledge economy, as education does not encourage creativity, and the curriculum neither raises the scientific curiosity of students nor challenges them sufficiently. Moreover, communication between the teacher and the student is poor and limited to memorising and recall; the educational system is described as rigid, while the school management does not have sufficient authority to take decisions and the opportunities available for students to show their creativity are in decline. These combined hinder the establishment of the knowledge society.⁹

The first element in strengthening the systems of youth empowerment is providing them with the appropriate skills that match the requirements of knowledge transfer, production and employment. Therefore, the pivotal and essential role of the educational system is again emphasised. The education system must improve its performance to appropriately qualify young Emiratis and provide them with these skills. Thus, the UAE urgently needs to truly change and develop the current educational system to move from a traditional system based on rote learning to one based on the skills of creative thinking, innovation, scientific research and constructive criticism from the earliest stages of education, so the country can build a national human capital capable of the transfer and localisation of knowledge.

Despite the country's efforts to develop university education, the relationship between the needs of the labour market and the qualifications of the graduates remains an important issue. The public and private higher education system is moving towards professional/vocational programmes rather than human development programmes.¹⁰ This could weaken the chances of comprehensive and sustainable human development in the country. Some negative traditions have also prevailed in university education, including a weakness in the spirit of initiative among the youth as well as their continued pursuit of secure government jobs.¹¹ This trend, by itself, is an obstacle to the transfer of knowledge. Also, most students consider education a final product and not a process. Many university graduates

do not consider themselves life-long learners, but regard graduation as the end of their commitment to education.¹² It could be generally said that the number of students enrolled in universities has increased, but this increase has not translated in the development of the knowledge economy or in the foundation of the generation or critical mass needed to establish this economy.

Orienting the Educational System towards the Knowledge Economy

The education system in many countries moves in one of two directions: towards educational reform based on fixed standards, accountability and results, or towards a knowledge economy and economic competitiveness, which is based on flexibility, innovation and risk-taking.¹³ The discrepancy between these two paths seems clear. The Emirati education system is inclined towards the first direction and is in line with standard global reform orientations that have not yet helped in establishing the required skills for the knowledge economy, despite many reform strategies that call for the creation of an educational model that paves the way for the knowledge-based economy.¹⁴ Despite many reforms in the educational system, little has been done with regard to flexibility, innovation and risk-taking; these are the features that lay the foundation for an effective education system in the knowledge-based economy and economic competitiveness.

The right side of Figure 5.1 shows the global educational trends that emphasise introducing standards in the areas of teaching, learning and evaluation, as well as increasing accountability in the educational system and creating a more restrictive environment for teachers. The left side shows the important skills that lead to the improvement of economic competitiveness (flexibility, innovation and risk-taking), all of which require more freedom for teachers in the curriculum, teaching and evaluation. This analysis is supported by research that argues for the need to adopt the greatest possible degree

of flexibility in the education system, for innovation to prevail at the school level and for risk-taking to be carried out in the classroom.¹⁵

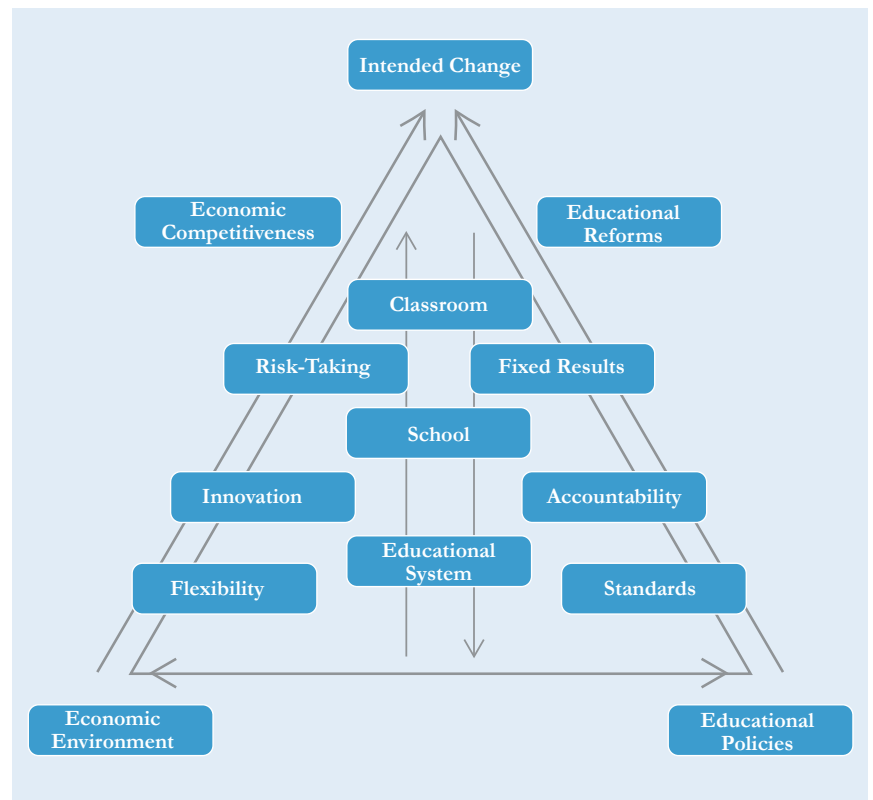
According to this model, flexibility at the wider level of the educational system requires the establishment of a decentralised management system that provides the freedom of choice for teachers in what they teach, flexible training opportunities, trust between teachers, administrators and managers and the decentralisation of operations. Flexibility also includes an evaluation system that encourages competition between students. However, these processes must not overlook the standard policies of teaching and learning to increase achievement.

In schools and universities, flexibility also involves giving teachers and lecturers more scope in assessing their teaching methods, the integrity of the curricula and its relevance to extracurricular activities and strengthening cooperation and communication between the teacher and the student so as to encourage innovation. Innovation in teaching comes through the creation of a learning community among teachers, thereby increasing the exchange of knowledge and creativity in teaching.¹⁶ This contrasts with the current situation in the UAE, where teachers largely follow an imposed curriculum and traditional teaching methods that remain limited to the concept of examinations that reward student memorisation. On this issue, this report supports calls to liberate exams from their traditional format and introduce various forms of evaluation other than written tests based on memorisation. Systems of continuous evaluation must be adopted that show student progress first hand and free teachers and learners from the tyranny of the exam, enabling them to study and become qualified in the various ways that lead to innovation and risk-taking.

Teachers at all pre-school and university levels must take risks in the classroom through the use of different and new teaching methods that encourage collaboration and

Figure 5.1

Global Educational Trends



Source: Natasha Ridge 2010. (Reference in Arabic)

experimentation. This means creating a safe environment where students do not fear failure, so they can be open to exploring new ideas. Risk-taking is the passion of trying something new and different without the fear of success or failure. However, the extreme fear of achieving low results in the current school curriculum leads to a more general fear of failure and competition among students, which in turn becomes a disincentive to the exploration of new teaching methods.¹⁷

We conclude here that there is a need to encourage each student to be creative in the classroom and beyond, with schools and universities focusing on the development and enhancement of the culture of innovation. This culture provides teachers with the freedom to embrace new teaching methods and to stay away from the imposed textbook, whenever required. This will necessarily require a change in the evaluation system, so as to allow the greatest flexibility at all levels. Finally, with regards to the system, it is important that both teachers

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and administrators be given the opportunity to contribute to the development of the curriculum, as this will enhance transparency and trust-building between education officials and those who work in schools and universities.

This proposal goes in line with the “UAE Vision 2021”, and is essentially at its core. The UAE vision aims to provide students with knowledge to overcome indoctrination and move towards critical thinking so they acquire the basic knowledge and skills required in the modern world.¹⁸

However, encouraging flexibility, innovation and risk-taking is a process that does not end at school or university. There is an urgent need for broader reforms to encourage research and development to create a sustainable knowledge-based economy. This will be discussed next.

Facing the Challenge of Research and Development

UAE has focused on scientific research, but the status of research and development is still not much different from the rest of the Arab countries which have limited capabilities, expenditure, support and production. This represents a challenge that must be dealt with in seeking the transfer and localisation of knowledge for the establishment of the knowledge society and economy in the country. Focusing on research, development and innovation is an important component in strengthening the systems of localisation of knowledge to better support young people in moving towards the knowledge society.

This challenge is evident through several issues, including the small number of specialised research centres, the weakness of links between research centres and industrial enterprises, the connection between university research and promotion and the limited number of researchers and their mediocre levels. It is also reflected in the weakness of the products of scientific research in the country due to the lack of encouragement and necessary financial

support.¹⁹ One of the challenges hindering scientific research activity in the country is the deficiency in the number of trained national cadres who are capable of enriching scientific research, reviving it and pushing it forward. In addition, and although the country ranked second among the Arab countries after Saudi Arabia,²⁰ there is a deficiency if not scarcity in patents as well as inadequate funding for scientific research and a lack of attention to scientific research in universities that focus their attention on the academic aspect. As a result, the real role of the university in serving the community in this area is overshadowed.

Some of the most important steps that can help face the challenge of scientific research and development in the country can be summarised as follows:

- Increasing the budget allocated for spending on scientific research, in government institutions as a whole and public universities. This is in addition to establishing research partnerships with private universities in the country and abroad.
- Developing a system of incentives for citizens working in the fields of scientific research and in the transfer and localisation of knowledge.
- Providing incentives for young citizens to enrol in specialisations of scientific disciplines, such as medicine, engineering, sciences, information technology and other disciplines that are important to the production of knowledge and which currently witness low enrolment rates by young citizens.
- Encouraging students to complete post-graduate study to get master and doctoral degrees, through exempting them from post-university study fees, granting distinguished students monthly bonuses and motivating them to pay attention to the activities of scientific research and the transfer and localisation of knowledge in different scientific disciplines.
- Providing additional local and foreign

grants for outstanding students to complete their post-graduate studies, especially in new disciplines that are gaining increased momentum at the global level and that enrich the process of the transfer and localisation of knowledge in the country.

- Encouraging universities and faculties to open higher education programmes, especially in new disciplines with a global future trend, along with providing scholarships for citizen students.
- Encouraging the private sector companies that work in the field of scientific research and in the transfer and localisation of knowledge in the country through offering them certain incentives, such as exempting them from renewal fees and providing them with competitive advantages.

Facing the Human Resources Challenge

The limited availability of citizens as human resources – they constitute merely 11.5% of the total number of residents, as we have previously mentioned – is one of the challenges discussed in this report.²⁵ This requires focus on the development of the national labour force and intensified investment in the human capital to create national cadres who enjoy productive positive thinking, effectiveness, quality, competitiveness, an ability to create and innovate and high levels of professionalism. However, this report confirms that foreign labour is not to be ignored when transferring and localising knowledge for the establishment of the knowledge society. This is particularly true regarding skilled and professional workers as this would mean wasting a large cognitive power in the country, one that could help the citizen workforce to develop itself and acquire skills to strengthen the systems of knowledge empowerment. The foreign workforce in UAE is playing a major role in development in various sectors. It enjoys multiple cultures, knowledge and experiences. This is considered by itself an important resource that can be

Box 5.1

Mohammed bin Rashid Al Maktoum Foundation

The UAE recognised the need to address the issue of research, development and innovation several years ago. In May, 2007, at the World Economic Forum held in Jordan, Sheikh Mohammed bin Rashid Al Maktoum, UAE Vice President, Prime Minister and Ruler of Dubai, allocated US\$10 billion to the “Mohammed bin Rashid Al Maktoum Foundation,” to promote knowledge in the area. Although this initiative was not the first of its kind, it is considered one of the largest contributions ever to the knowledge project in the history of the region.

Undoubtedly, the establishment of the Mohammed bin Rashid Al Maktoum Foundation came at the perfect time. The announcement of the institution made it clear that it would provide a unique opportunity for the new generation to compete at the global level. What His Highness Sheikh Mohammed bin Rashid Al Maktoum said in this regard was unequivocal. He described the failures of the Arab world and pointed out that the subject of knowledge must be taken seriously, which makes it imperative for countries in the region, including the UAE, to adopt an agenda of human development totally different from what they have been used to.²¹

The Mohammed bin Rashid Al Maktoum Foundation aims to support the construction of cognitive infrastructure, establish research centres, grant scholarships and promote authorship and publication in collaboration with international institutions for the benefit of future generations. Mohammed, O’Sullivan and Ribière²² hoped the foundation would provoke a quantum leap in intellectual assets in the region, as the “House of Wisdom” did in the 9th Century. The statement of the foundation emphasised the fact that it would work on promoting human development through the establishment and maintenance of the cognitive and cultural infrastructure, the building of communication and decision-making networks, the translation, and the development of future leaders for the region.

The foundation’s ultimate goal must be to transform the Emirati individual in particular, and the Arab individual in general, from a consumer to a producer of knowledge, or at least to an individual involved in knowledge production. The import of goods that need sophisticated knowledge without knowing the ideas behind them or behind their work hinders the progress of the region. As pointed out by Sheikh Mohammed, “the attempt to import ready-made and non-localised solutions to this part of the world is not the right way to reform the region.” This method may create more obstacles than solutions to the knowledge challenge. The knowledge society requires an education that is based on solving problems related to national objectives.²³

The diversity of the workforce that comes to the UAE from different countries and with different experiences and ways of thinking is considered in itself a wealth that must be invested in and built upon. Workers residing in the country bring knowledge and can learn new skills to achieve higher levels of productivity. This sector of human capital should not be neglected, while it is also necessary to develop knowledge management strategies to transfer these skills and experiences to the UAE citizens, for future benefit.²⁴

The Mohammed bin Rashid Foundation must try hard to achieve the objectives upon which it was established, because it is highly regarded as an important pillar and means to strengthen the systems of knowledge localisation in the UAE and the Arab world.

Source: Mohammed et al. 2008.

invested in for the transfer and localisation of knowledge. Communication, openness and building partnerships between local and foreign institutions, and between the workers residing in the country and Emirati nationals, should be enhanced in order to maximise the benefit from foreign expertise.

The second aspect to the challenge of human resources is the emergence of unemployment

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among the youth. The various institutions in the country should encourage young people to work in the private sector or in entrepreneurship to maximise economic effectiveness. It is a challenge to common logic that the public sector can accommodate all graduates. Economic participation and employment opportunities for the youth are two important factors that support the promotion of youth empowerment in various fields. An important issue emerges in this regard; youth employment in the private sector. The youth are reluctant to work in this vital sector, which only employs 0.5% of citizens according to statistics from the Emirati Labour Ministry.²⁶ To be able to transfer and localise knowledge, the country should work to increase the employment rate among citizens in the private sector, because building the Emirati human capital in all sectors is an essential element for development.

It can be said that Emiratisation programmes in the private sector, in which companies are expected to employ of specific percentage of citizens, are important national programmes. But this issue must be dealt with cautiously, with a focus on upgrading the skills of citizens and enabling them to compete in the labour market based on their merits and qualifications. The country has succeeded in creating a competitive market that attracts competent people from various parts of the world, and it must push its citizens to enter and succeed in this market on their own merit. This would also better serve the aspired-for processes of knowledge transfer and localisation, which are based on young, skilled people who master cognitive skills and values.

Facing the Challenge of Economic Structure

The Emirati economy, as confirmed by the data issued by the Ministry of Economy in the UAE, still depends heavily on the oil sector. This is despite remarkable progress in economic development in the UAE and major expansions in many economic sectors such as tourism, commerce, finance and industrial manufacturing. The diversification

of the economy is not limited to the direct effect on economic development, but also includes the efforts of knowledge transfer and localisation in the UAE. The prevailing economic situation is based on the extractive industry of depleted natural resources that are non-renewable and have a relatively low cognitive added value. Moreover, many of the expansions in other economic sectors, even where they included an intensive use of knowledge products, have been associated with little or no added cognitive value and do not involve real “localisation” of knowledge. Despite their obvious importance and ability to generate additional income for the country, many of these expansions – as in the case of trade and manufacturing that have a low cognitive value – do not contribute to the processes of knowledge transfer and localisation in the country. Therefore, it is necessary to double the efforts to diversify the Emirati economy, while focusing on industries and sectors that have a high cognitive added value, and building on existing efforts to qualify young Emiratis to effectively engage in the processes of economic diversification towards the establishment of the aspired knowledge society and economy.

Facing the Challenge of Motivating the Youth to Engage in the Processes of Knowledge Transfer and Localisation

There is no doubt that the UAE has provided many opportunities and incentives for young Emiratis in various fields at the educational, foundational and professional/vocational levels. The UAE has also progressed in basic infrastructure, including that directly related to the transfer and localisation of knowledge, reaching a par with the world’s most advanced countries. The infrastructure of information technology, for example, is one of the best in the Arab region and the world. This is also the case for communication and transportation. The infrastructure of education and qualifying systems – installations and facilities – has progressed considerably, not to mention the education and development opportunities made available to young people abroad. These structures and systems are considered

a key element in the quest to establish the knowledge economy and society, which is a positive factor that should be applauded. The question remains about the effectiveness of these structures and systems in bringing about the transfer and localisation of knowledge, and about the effective use of the potential and opportunities brought about by these structures and environments among young Emiratis. Young Emiratis, as noted previously, prefer administrative jobs in general. A relatively low proportion choose higher education and post-graduate professional development, in a way that does not commensurate with the opportunities and infrastructure already in place. The country, in its active drive to improve economic and social equality among its population, is also required to work towards stimulating young people to work hard in development and economic, educational and research activities that have a higher cognitive added value, in a way that better serves the interests of the youth, the economy and development in the UAE. Such incentives can come in various forms and start with the formation of the values of work and belonging from an early age, to establishing systems and tools to stimulate productive work. These motivational tools can also be extended to include material and moral incentives, in addition to the establishment of systems that require capacity-based competition to secure jobs and professions. The adoption of such policies would support the engagement of young Emiratis in the transfer and localisation of knowledge for their own interest and that of their country. Moreover, the adjustment of the wages and pension systems to better encourage productive and creative activities could add a sense of value and increase the appeal among young people.

In conclusion, it must be noted that the UAE's attempt to invest in the "knowledge" future is facing a number of important problems. The culture of competitiveness and innovation requires openness and participation. The country might prefer to rely merely on citizens in its vision and orientation towards the future, but this

might weaken their potential. Despite the available incentives, the process of knowledge-making will take a lot of time and effort, especially in dealing with international companies that may control the entire process. The other problematic issue is the forms of employment in the long run.

Wealth is important for the future, as it helps to import the best companies, create the best buildings and establish the horizon of investment. However, development and prosperity need another dimension. In the absence of local capabilities to create world-class diversified economies, the community will not be able to achieve more than the import of knowledge and the construction of infrastructure. In other words, material resources alone do not make the knowledge society. They come second after human potential, and this is the real challenge.

The UAE is facing an urgent task in the processes of knowledge transfer and localisation to develop its own human capital. Otherwise, history will repeat itself in importing and attracting the best foreign expertise, building the best infrastructure, providing the best opportunity and environment for investment, and so forth.

The method used for the transfer and localisation of knowledge should also be reconsidered. This will require unified efforts from several federal and local bodies to set unified goals and strategies aiming to make the UAE a regional hub for the localisation and transfer of knowledge in certain sectors in which the country can lead the way scientifically and technologically. This should be accompanied by an increase in the budgets allocated for scientific research and encouragement to universities to focus on research activities.

There is another problem related to the role of the private sector in this process. Links between research centres and production sectors should be strengthened. Efforts should focus as well on enhancing the role of the private sector, which not only takes a negative stand but also fails to contribute

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effectively towards the production and localisation of knowledge through supporting scientific research projects at universities or at specialised research institutes in the country. The private sector does not support or fund scientific research projects. It also fails to invest in, use or help transform the creative ideas of researchers in end products.

Scientific institutions in the public and private sector are required to take practical and concrete steps that lead to a quantum leap in scientific research activities in the country. This is to be achieved through a scientific and predefined approach, supported by allocating adequate funds for research activities and projects, in order to promote government policies on the transition to a competitive knowledge-based economy in accordance with UAE Vision 2021.

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Moving towards the Effective Engagement of the Youth in the Processes of the Transfer and Localisation of Knowledge

The methodology proposed for the future action towards the effective integration of young Emiratis in the processes of transfer and localisation of knowledge is based on four key elements: First, strengthening the systems of youth empowerment; second, strengthening the systems of knowledge localisation, including the processes of knowledge transfer and production, as well as its employment in supporting human development; third, providing the enabling and supportive environments for each of the above two components, including societal support, economic structures and institutional, legislative, financial and cognitive tools; and fourth, providing the required on-the-ground mechanisms for the achievement of positive interaction between the three previous systems, in order to effectively move towards the transfer, localisation and employment of knowledge. This would eventually lead to the ultimate goal of establishing the knowledge society and knowledge economy, and achieving sustainable human development in the country.

The mechanism of action to integrate young people in the processes of the transfer and localisation of knowledge was set in the form of a ship sailing into the future, which is the aspired-for knowledge society and economy, as a gateway to the wider levels of sustainable human development. The ship carries all that could help its passengers (the youth) reach its destination. The base of the ship represents the structures, processes and institutions essential for the transfer, employment, localisation and production of knowledge, including financial, economic, legislative and institutional instruments and community support. Young people on board are armed with cognitive skills and values; they are open to the world, belong to the country and are efficiently active socially, culturally and economically. Between the base of the ship and those on board is a range of mechanisms or means that allow and guarantee the youth to be effective in the processes of the transfer and localisation of knowledge, including financial allocations, planning, openness, intercommunication, translation, digitisation, monitoring, evaluation, global and regional partnerships, motivation and support and good governance.

This thematic vision of future actions is in line with proposed actions across the Arab region in general,²⁷ which take into account many common factors. However, translating all of the elements and details depends on the specific characteristics of each country. The following is an explanation of each element of the model proposed, taking into account the special case of the UAE, especially with regards to facing existing challenges and capitalising on successes and available opportunities.

First: Strengthening the Systems of Youth Empowerment: Figure 5.2 shows the key elements of the frameworks required to achieve the active participation of young Emiratis in the processes of the transfer and localisation of knowledge. The first element is to provide young people with the appropriate skills that match the requirements of the transfer, production

and employment of knowledge. The list of skills required extends from technical skills to those dealing with information and analysing it, in addition to social skills, such as teamwork and communication, among others. It is here that the pivotal and essential role of the education system emerges. The education system should improve to ensure the formation of young Emiratis and provide them with these skills.

Building the required skills for Emirati youth is a central element in the processes of integration. Reconsidering the enhancement of this system is a must. Due to the importance of this element in realising effective participation of the youth in transfer and localisation of knowledge, this chapter presented a detailed argument of how to overcome the educational challenge to enable the youth to acquire the cognitive skills required for accessing the knowledge society.

Strengthening economic and social effectiveness is the second element in the context required to enable young Emiratis. Such effectiveness must be reflected in increasing the rates of youth employment, providing young people with productive employment opportunities, encouraging and supporting small enterprises, promoting a culture of volunteerism and participating in civil and government organisations. These engagements, in their different forms, are important indicators that directly or indirectly contribute towards empowering young people and realising their active participation in the transfer and localisation of knowledge.

The third element to the empowerment of young people is cultural effectiveness. This involves increasing young people's awareness of the importance of reading, launching national projects related to reading, cultivating an interest in the different forms and expressions of art, such as participation in art exhibitions and the attendance of theatre plays, which are considered important practices in shaping cultural identity and building perceptions of young Emiratis for the future.

Then comes the fourth element, which relates to the values and practices of citizenship and belonging. True citizenship, which involves personal and national pride and dedication to work, can only be achieved in a societal environment that guarantees the rights and obligations of all its members, regardless of their religion, tribal affiliation or geographic location. Citizenship is also reliant on the collective commitment to a set of principles of co-existence among all citizens. True and positive citizenship is a prerequisite for the empowerment of young Emiratis to effectively engage in the processes of knowledge transfer and localisation.

Openness and global integration is another required element, since the effective integration of young people in the transfer and localisation of knowledge cannot be realistically achieved in this era without the youth possessing specific capabilities, such as openness to other cultures, mastering foreign languages – such as English, which has become the language of this era – and the use of technology and modern applications in areas of specialised knowledge. Perhaps the most important openness should be the one related to changing thinking patterns that do not accept others and refuse to positively intercommunicate with them.

The final element in the system of enabling young people is the values that young Emiratis believe in and that direct their actions and practices. It is very important and highly regarded that the youth do possess cognitive values, such as respect and appreciation of knowledge, universal human values and social values that respect community values without closure or exclusion. Such beliefs among the youth should be respected and nurtured to better empower them in the processes of knowledge transfer and localisation. Even if they enjoyed the requisite skills and were provided with the means of openness and economic and cultural effectiveness, the Emirati youth would not be able to move successfully and contribute meaningfully to the localisation of knowledge if they did not believe and function in a system of values that supports them in achieving that.

True and positive citizenship is a prerequisite for the empowerment of young Emiratis to effectively engage in the processes of knowledge transfer and localisation

The channels and areas of the production of knowledge include motivating and supporting the activities of scientific research and studies related to building the knowledge economy and the knowledge society

Second: Strengthening the Systems of the Localisation of Knowledge: the report on the UAE confirmed that the systems of the localisation of knowledge should include three elements that integrate with each other and complement each other. The first two integrated elements are the transfer of knowledge and its production. The report considered that the transfer of knowledge was a stage that could coincide with the production of knowledge locally, which is a necessary process to catch up with the global trends in this field. The current cognitive environment in the UAE, namely information and communication technology, provides one of the most important channels to do so in a serious manner. However, the UAE still needs to realise the other element correlative with the transfer of knowledge and represented in its use and employment, as well as its production. Therefore, it is considered that the transfer of knowledge is a positive step in the path towards its production and dissemination.

The channels and areas of the production of knowledge include motivating and supporting the activities of scientific research and studies related to building the knowledge economy and the knowledge society. It also includes supporting creativity and innovation in all forms. Such processes must be guided – both in the production and transfer of knowledge – by the principle of openness and communication with the world so as to generate benefits and contribute to global achievements. Building partnerships and productive intercommunication of knowledge perhaps represent a key step in this field.

The third and essential element in the processes of the localisation of knowledge is the employment of knowledge, whether transferred or produced, to achieve human development. Focus areas of knowledge employment should include all aspects of human development; economic, social, political, cultural and environmental. However, this may be first achieved by focusing on vital knowledge that holds

priority for the Emirati society, such as desalination research, renewable energy and agriculture. The report has touched on some of the challenges in the field of research, development, innovation, creativity and human resources in the country.

Third: Providing Enabling Environments: in the absence of a supporting and motivating environment, even qualifying young people with the skills and values they need to effectively engage in the processes of the transfer and localisation knowledge as well as for strengthening the elements for knowledge production and employment; will not be enough to bring about the desired advancement. The enabling environment and community support in all its forms and manifestations – including the promotion of the culture of work and the maximisation of the role of civil society organisations and religious institutions – represents another key requirement. Public economic structures play a prominent role as a key element in the required enabling environments, and these structures must be based on the foundations of the knowledge economy, primarily the motivation for creativity and the orientation towards the production of goods and services with higher cognitive values. The enabling environments are not limited to the support of the community, freedoms and economic structures, for they must involve influential tools that help achieve the goal of effective integration of the youth in the processes of transfer and localisation of knowledge. This requires, above all, real cognitive tools that include the development of the education system at all stages. It is also necessary to develop legislative tools that include laws and regulations to be enacted and enforced by institutions. Other requirements that should be mentioned include financial instruments, such as the expansion in funding for entrepreneurship and SMEs and providing funding opportunities for young people, allowing them to realise their potential and therefore ensure the effective integration of the youth in the processes of knowledge transfer and localisation.

Fourth: Mechanisms of the Effective Youth Integration: the interaction required

between the systems of knowledge localisation and youth qualification in the context of an enabling environment requires effective mechanisms to achieve this interaction dynamically and actively. The most important factor is establishing appropriate channels for openness and intercommunication with the outside world. This could possibly be better realised through building global and regional partnerships in the areas of knowledge transfer, production and employment. There also remains an urgent need for other

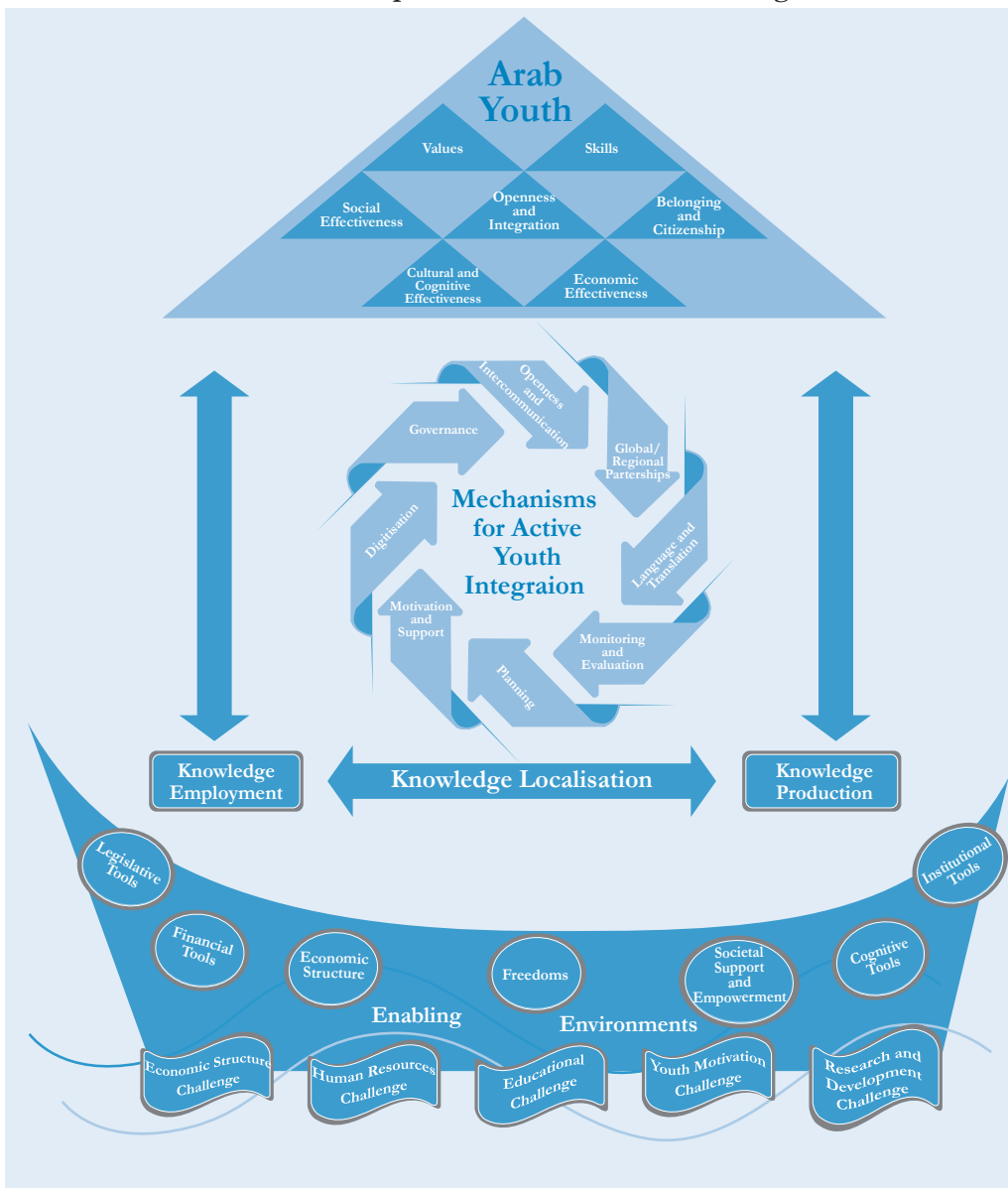
practical mechanisms – such as translation and digitisation – in addition to even-handed planning supported by continuous monitoring and evaluation mechanisms. All these processes must be governed wisely under a direct management that focuses on economic and social effectiveness. Good governance and effective management should set the general framework for the activation of all the elements of the integration of the youth in the processes of knowledge transfer and localisation.

In the absence of a supporting and motivating environment, even qualifying young people with the skills and values they need to effectively engage in the processes of the transfer and localisation knowledge as well as for strengthening the elements for knowledge production and employment; will not be enough to bring about the desired advancement

Good governance and effective management should set the general framework for the activation of all the elements of the integration of the youth in the processes of knowledge transfer and localisation

Figure 5.2

Moving towards the Active Youth Integration in the Process of Knowledge Transfer and Localisation: UAE Specific Mechanisms and Challenges



In Conclusion

The current settings in the UAE evidently confirm the availability of the main elements and requirements for establishing the knowledge society and the knowledge economy and strengthening the participation of the youth

The establishment of a national knowledge base in the UAE – one that is based on the effective integration of the youth in building it and benefiting from its products, is one of the basics for achieving comprehensive and sustainable human development. Therefore, it is important to adopt an overall future vision of the transfer and localisation of knowledge, a vision that directs efforts towards horizons that are wider than the transfer of knowledge alone, in order to develop a knowledge production process in which the youth play their desired fundamental role; not only paving the way for the production of knowledge, but also for its employment, diffusion and development. Institutional, legal and strategic frameworks must be promoted to ensure the sustainability and integration of efforts, while taking into account the absorptive capacity while drafting and implementing plans related to the transfer and localisation of knowledge. The importance of the participation of all the segments of society, especially the youth, and all parties concerned, from government agencies and civil sectors, including academia, civil society organisations and the private sector, is not to be overlooked.

The strategies and mechanisms proposed are not only viable, but also enjoy the

availability of most – if not all – conditions to their success. The current settings in the UAE evidently confirm the availability of the main elements and requirements for establishing the knowledge society and the knowledge economy and strengthening the participation of the youth. Investing in building the Emirati citizen and advancing him or her in all fields represents one of the main declared priorities and directions. Also, many of the elements of success are actually available or will be soon, for the UAE has witnessed remarkable achievements towards the establishment of the knowledge society and the knowledge economy. The country enjoys a sophisticated infrastructure and information technology system, a strong economy and a clear understanding of the importance of building the knowledge society and the need to efficiently involve young people in this central development process. More importantly, there is a political will at the highest levels, supported by sincere community will, to achieve these goals. There is also awareness of the importance of catching up with the developed countries. This will lead the UAE to sail across the wide seas of knowledge to reach the shores of sustainable human development and to realise the pride and happiness of the people of the UAE.

Endnotes

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- 27 See the third Arab Knowledge Report Third 2014, issued in conjunction with this report, which deals with this issue from a regional perspective covering the Arab region as a whole.

