Skills for Green Jobs Workshop in Egypt: The Case of Composting and Renewable Energy

Cairo, Egypt

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SUMMARY

This report provides a summary of the presentations and discussions that took place at the Skills for Green Jobs Workshop in Egypt: The Case of Composting and Renewable Energy on November 19th, 2012.

The workshop was a mixture of people representing different sectors from organizations, companies, and governmental organizations that were in some way related to sectors in green jobs. The workshop was a combination of presenters speaking on specific issues, discussions and culminated in an exercise in which participants gave solutions for current problems related to the industry.

WORKSHOP OBJECTIVES

The Skills for Green Jobs in Egypt workshop aimed at initiating a process for developing a vision, strategy and action plan for composting and renewable energy, with a particular focus on skills policies, and programs to support sector growth.

The workshop was a joint collaboration supported by the ILO’s CIDA funded project “Decent Jobs for Egypt’s Young People” project; and the GIZ’s “Green Jobs Initiative”. The ILO’s Decent Jobs for Young people project’s main purpose is to create job opportunities for youth in an environmentally sustainable way and thus supports this workshop to inform regional action plans on youth employment and the project’s overall implementation strategy. GIZ’s “Green jobs Initiative” includes three project packages, which have the objective to promote the establishment of environmentally relevant jobs and corresponding qualification offers in formal as well as informal education segments.

Speech - Skills for Green Jobs - A Global View

(Christine Hofmann: ILO Decent Work Team, North Africa)

Christine Hofmann of ILO gave a speech highlighting that green jobs are essential for the future of Egypt. She first mentioned that they are needed for sustainability reasons, secondly she pointed out the need for a smooth transition to more green jobs, and lastly she noted that
they can independently act as a driving force to create jobs. She went on to explain a feedback loop between the creation of green jobs and the capabilities of the workforce. She explains a fluctuation in one causes the other to change. She notes that part of this problem is rapid development in environmental goods and services as a result of changing consumer demand, technology, innovation, and environmental degradation causing a strong impact on the skills that are needed. The government she notes has failed to institute the necessary environmental policies. The strong employment in carbon-intensive activities, for both skilled and unskilled workers, is also a hinderance to the development of green sectors. In order to overcome the problem of a lack of skills there needs to be strategic leadership skills as well as coordination between the different and related ministries, at the top, as well as an ability to adapt and an identification of skills at the bottom.

PANEL DISCUSSION - The Current State for Skills for Green jobs in Egypt

(Mr. Mahmoud El-Sherbiny, Executive Director Industrial Training Council
Dr. Magdy Bayoumi Chief of Bio-systems Engineering and Agriculture Department, Agricultural Engineering Research Institute
Dr Hisham Sherif, CEO, ENTAG)

In the introduction to the panel discussion it was noted how there is a problem with vision and a “lack of respect”. It was elaborated that the lack of respect is at the expense of both the general population and the succeeding generation. It was also noted that children shouldn’t ultimately have to pay for the bad decisions and the polluting practices of big corporate entities today. Some alarming figures were given, namely that if Egypt used waste efficiently it could create 16 billion EGP for its waste. It also was pointed out that machines used for composting could be made domestically, and there is not a need for the importation of them from other countries, but ideas from international companies and consultation from various successful corporations could do the whole industry well. The concluding remarks were concluded when they said there needs to be a coordinated effort with composting biogas, paper manufacturing, etc. It was pointed out that there exists a stable manufacturing industry in Egypt, but the issue is that there is no infrastructure to make it more efficient, and better reap its benefits. Both lack of political will and a lack of accountability are the problems. The
SPEECH - Building Domestic Capabilities in Renewable Energy

(Georgeta Vidican: German Development Institute)

Georgeta Vidican’s speech was on the capabilities of Renewable Energies with emphasis on the case of Egypt. She started off by noting that energy demand is set to double in Egypt by 2020 and double by 2030. The capacity to handle this, as of now, is scarce. There is a deficit for the creation of energy that measures two times the Nile River. Especially, she points out, because there is a shortage of water resources. The shortage of water, she argues can be solved with water desalination and an energy intensive plan. She notes that Egypt has a particularly high dependence on Natural Gas and Oil as well. The goal for Egypt by 2020 is that 20% of energies come from renewable, but currently only .1% of total energy supplies come from renewables. The solution that Vidican lays out all needs to take place in a favorable political-economic context. She argues there needs to be adequate production capabilities, project execution capabilities, and adequate capabilities to innovate. She notes that the job creation abilities for solar energy are immense. Per GWH, for example, approximately 870,000 jobs per year can be created. She then zeroes in on the potential for job creation in the wind energy sector. The wind energy sector can create a diversity of jobs ranging from component manufactures, general manufactures, IPP/Utility, installation and repair mechanics, consultancy, and engineering. She mentions that there many skills that are
available in Egypt for the wind sector, including meteorologists, programmers, engineers, supporting staff, health and safety experts, electricians, semi-skilled and non-skilled construction workers, social-surveys, training and communication experts, financiers and economists, marketing personnel, and event organizers. However Egypt lacks skills such as Environmental engineers, lawyers, economists, technical staff for repairs, technical staff specialized in wind turbine installation, financiers, engineers in aerodynamics, computational fluid dynamics and other R&D areas, and lastly environmental engineers and energy policy experts. She then moved on to CSP sector, but noted that the opportunities are less widely available, and research for opportunities on technological adaption is still needed. She concluded by laying out a number of policy guidelines. These included an all inclusive education and skills development program, and aligning training and sector development to the private sector is also key in this endeavor. She also notes that government intervention is absolutely essential and there ability to invest in competitive areas and pull out of non competitive areas is absolutely necessary. She concluded by saying both fears of massive job losses and hopes that green jobs will solve all of the nations problems are unfounded.

**SPEECH - Organic Waste**

*(Professor Saleh Hagar - AUC)*

The stated objective of the presentation was to create a suitable and sustainable organic waste system to deal with the recycling system to approach organic farming. The problem that farming in Egypt poses is very challenging because of the current use of chemical fertilizer, pesticides, unhealthy and low quality of farming products, solid degradation, and the fact that it is very expensive to do. The ultimate aim should be to replace chemical farming to organic farming. He then goes on to point out the problems of organic waste such as attracting flies and mosquitoes, the burning causing air pollution. He says the benefits are that recycling of organic waste can take place through aerobic or anaerobic fermentation, and that the recycling of organic waste can provide millions of job opportunities. He then went into detail about aerobic fermentation and the three types natural aeration, passive aeration, and forced aeration (which is not the preferred method), vermi composting, co-composting, and anaerobic fermentation. He concludes by saying that getting rid of waste constituted a severe problem which included a depletion of resources, pollution, and loss of job opportunities. Finally, he says that going forward organic waste recycling has proved to be the most feasible
for the Egyptian community since it is the most economic choice in four different levels.

**WORKSHOP RECOMMENDATIONS**

Following brief presentations, the workshop concluded with the formation of two groups: the first focusing on problems and the potential for composting and the second focusing on problems and the potential for renewable energy. Each was given the task of answering seven separate questions.

**COMPOSTING**

*Facilitator: Adam Molyneux-Berry*

Among the questions asked were:

1) What is the job creation potential in the sector? 2) Are skill shortages holding back sector development? If so, in which areas? 3) What are other barriers to sector development? 4) How do we formalize informal activities? 5) What is needed to stimulate sector growth and develop the required skills? 6) How relevant are biogas opportunities?

1) The participants noted that there is large job creation potential in the sector. The potential in the sector included the areas of urban and country, households, parks, sewage awareness, land reclamation, new communities, and recycling centers.

2) According to the participants the sources of the skill shortages include the inability by the government to create strategic vision, persisting traditional cultures and mind sets, the lack of feasible studies for environmental projects the inability to develop national technologies and research, no existing cohesive market for new ideas and products, an inability need to encourage creativity and team work, and the lack of social cooperation. Also needed was the need for continuous training, problem solving, and practical research. On the labour side the lack of qualified workers on specialized and creative businesses, the lack of communication networks between farmers, manufacturers and the lack of scientific researchers, and gaining the organizational support for scientific studies and research were all noted as problems.
3) The barriers to sector development were far-reaching according to the participants. They collectively noted that improving trainers and training concepts, the lack of awareness (with the focus on farmers), availability of case studies and dissemination of information, financial barriers, lack of knowledge on how farmers would benefit, the need to increase the awareness in the governmental sector, creation communication network between government and farmers, a lack of vision, and the need to adopt local technologies and research development were all key to mitigating the problems.

4) Several suggestions were given to formalize informal activities. The participants pointed out how they needed to increase the communication level in society, to set communal dialogue meetings to better communicate ideas and exchange knowledge and experiences. Also noted was the need to set communal dialogue meetings to better communicate ideas and exchange knowledge and experience. Another important factor was to set coordination methods and build communication network between concerned sectors which included, MoMM, Ministry of Health, Internal Affairs, and The Ministry of Social Insurance Increasing awareness of the importance and benefits of composting and waste recycling. There was also a need to introduce system and technologies of composting.

5) The participants listed many factors that were require to stimulate growth of the sector. Recognizing the importance of the notions of strategy, vision, and projects, were important. They said that regulation and enforcement of existing rule was also vital. These regulations included the regulation of product quality, as well as agricultural residuary. Financial incentives for composting were also something brought up by the group as well as increasing the activities of the research and business development programs, establishing training centres for composting and related products and, general awareness of activities.

6) The participants noted that biogas opportunities were extremely relevant and important. They noted that biogas is completely feasible, but the chances are limited because of subsidies to the energy supplies for households. An example is the government subsidy for electricity. It could be directed to subsidizing the biogas industry and could aid in the creation of a small-scale private Biogas system. Increasing urban awareness on recycling is also a necessary step. The participants also noted that farmers’ awareness on Biogas is lacking. To remedy this problem it was suggested that there is a need to conduct trainings
on how to manage a biogas unit, increase awareness on using the biogas as source of energy and on producing solid fertilizers out of composting, the need to measure daily average energy need for farmers, identifying the difficulties farmers face to get energy, and conducting trainings on how to manage a biogas unit. The group also pointed out that Egypt has to urgently produce energy from waste due to climate changes resulting in thermal emissions. Reconsidering subsidiary reform policies to stimulate investments in energy industry from waste is also a necessary step. They said as a result biogas could potentially create untraditional jobs, save energy, improve living standards, and create job opportunities for rural women.

**RENEWABLE ENERGY**

*Facilitator: Kahlil El Masry*

The questions of the renewable energy group were as follows:

1) What role do subsidies in the Renewable Energy play sector play and what role do they need to play? 2) What is needed to stimulate sector growth? 3) What skill shortages are holding back sector development and in which areas? 4) What is the job creation potential for the sectors? 5) Which other barriers are holding back the sector development?

1) The first two questions were answered in combination. The group implied that the government needs to realize that investment in research and development is for sustainable development rather than a direct government expense and therefore needed to switch subsidies from conventional fuel sector to the renewable energy sector, which would support cost reduction and motivate people to innovate in the sector. They emphasized how the subsidies needed to be subsides targeted at innovation and should include a customized subsidy package, and should also include a tax exemption for local farmers.

3) The participants split the skill shortages into two separate groups. Technical, and Non-technical. In the technical group are the Engineers and Technicians. The Technicians, they noted, are primarily supposed to work in Installation and Maintenance. The non-technical that were absent and mentioned by the participants included Practical Experience, Project Management, Energy Policy, Solution oriented R&D, Procurement, and Education Centers. They noted that the areas of Green building (civil construction), roof-top
installations, manufacturing, and awareness of value resources, which include water, gas, energy, and waste needed work.

4) The presenters noted that renewable energy has a higher job creation potential than fossil fuels and the participants also made certain to note that there are direct and indirect effects of creating jobs in the renewable energy sector. They noted that as well as directly related jobs indirectly related jobs was high in the renewable energy sector.

5) The group noted five main factors that were holding back sector development:

0) The first issue is weak institutions. They noted that this lead to weak law enforcement, unfair subsidies favoring of fossil fuels, the lack of institutional capacity, taxes on imported technologies and components for production. The possible solutions for this problem were awareness, training, incentives in institution, a passing of an energy law, and a clear national strategy that included clear market-development goals.

1) The second issue is a lack of consumer awareness. They used the example that there is currently a bad image of solar water heaters. They said that the problem of general awareness could be solved mobilizing the media and NGOs and promoting civil society networks.

2) The third issue is the weakness of value-change linkages. A solution for this would be a business database hosted by the government and a business association all with the goal of connecting businesses together. The group also stated that there is a need for cluster-building among companies & organizations working in Renewable Energy.

3) The fourth issue is the inherent issue that it was difficult to involve all sub-sectors in the vast sector of Renewable Energies.

4) The fifth issue is the lack of education and research and development in Renewable Energy. The participants noted how there are no Renewable Energy Departments, and scholarships with international exposure in universities. The solution that was given was to encourage solution-oriented cooperation between academia and the private sector.
CONCLUDING REMARKS

(Mr. Ahmed Youssef: Ministry of Manpower)
(Dr. Moustafa Fouda: Ministry of the Environment)

Mr. Youssef began by mentioning that there is a need for protection and training, which provides job opportunities between employers and employees. He also mentioned that there is a lack of confidence between employers, the industry, and that the culture of graduates is such that coming out of college they automatically want a job with the government and not with the private industry. This culture he mentions, needs to change.

Dr Fouada representing the Ministry of Environment was next. He mentioned that GIZ and the Ministry of Environment are currently collaborating in order to make a waste management strategy and that now there is a need for the implementation of it. He notes as well that there are problems beyond the capability of the Ministry of Environment that need to be dealt with in the private sector. He notes that although the environment is not responsible for the problems it still bears the adverse affects of it. Dr. Fouada went on to say that the many ideas at the conference needed to actually be implemented, time is severely limited, and that there needs to be an elaboration on the specifics. His final point was on the networking and the communication that needs to take place between both the private sector and the government and in the future there should be a greater representation of government officials in such meetings.