Ministry of Water and Irrigation

Solar Power Plant Dhlueil 50 MW - Impact on Syrian and Host Communities in the Project Area and the Water Sector Performance

1. Actual situation Syrian refugee crisis and affected host communities in Northern Jordan:

- **A Crisis on top of crisis** is creating real emergency conditions especially in Northern Jordan.
- About 80% of the 1.2 million refugees living in host communities.
- Donor assistance concentrating on humanitarian response, only slowly growing to improve resilience (Jordan Response Platform for the Syria Crisis), till today available funding not covering GOJ needs.
- Water supply already in crisis mode, water demand cannot be covered from existing resources.
- Energy consumption for pumping increased by more than 20% within 2 years, costs by more than 30% due to additional water resource development and pumping to satisfy additional consumption.
- Any new infrastructure requires comparatively higher energy inputs and endangers the reliability of energy supply in certain areas.
- Rationing system applied all over Jordan (supply of water is available only one day per week).
- Frequent power supply interruption in summer affecting reliable supply of water to population.
- Improper sewerage disposal endangering public health in Mafraq Governorate.
- Draught conditions reduce the available water quantity by approx. 33% or 110 million m^3/ year.

2. Introduction of renewable energy sources:

Increased use of renewable energy is seen as an appropriate reaction to reinforce the electricity supply in areas with high concentration of refugees and new water infrastructure like wells, pumping stations and wastewater treatment, thus reducing power outages in summer and increasing availability of pumping facilities for water transport & distribution.

Depending on the funding and implementation agreements, MWI is confident to even reduce the energy bill of the water sector (152 MJOD/a in 2015) and dependence on the power distribution companies.

In the updated Structural Benchmark Action Plan between GOJ and IMF, the financial burden of the water sector due to the introduction of several renewable energy projects will be reduced by a total of 56.5 MJOD between 2017 - 2021.

The proposed 50 MW solar power plant at Dhlueil will be an important cornerstone in the implementation of the action plan.

3. Expected benefits for refugees and host community

- Increased supply security for water supply (less power outages) thus preventing potential public health issues due to unavailability of water for drinking, cleaning, and sanitation;
- a reduced dependency on expensive water supply via water tankers, which are unaffordable for most refugee families

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- Some of savings would be applied to improving sewerage disposal in the Mafraq Governorate, preventing potential public health issues
- Creation of jobs at the solar power plant in an area short of job opportunities.
- Water tariff increases will be more moderate and stable due to renewable energy use and benefit, in particular for poor households. It is expected that due to the savings from renewables, the current water revenues will be close to break even with the operating costs, while providing funds to address the above mentioned service issues that impact public health.
- Reduced CO2 emittance due to use of renewable energy.

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