



Renewable Energy and Food Security



Photo by: APC

Hearing – Feeling – Sharing *KKL-JNF Moving Forward Together*



קרן קימת לישראל
K K L - J N F

Welcome!

Our trip will focus on food security and renewable energy in the Southern Arava as an example of the amazing work KKL-JNF has done and continues to do in peripheral areas in Israel.

We will visit a variety of KKL-JNF change-making projects that improve quality of life for people in the region. You will have the opportunity to meet the people who live in the area, see their faces, hear their stories, take pictures and interview them – get to know the people behind the initiatives and learn about the various aspects of renewable energy in the desert. Thanks to you, those people enjoy a better economy and a higher standard of living. Your continued help and support make a difference!

Some of the projects we visit are still open for donation and it will be our challenge to match them with suitable donors.

Use this opportunity to collect resources for creating exciting, stimulating, inspiring marketing materials that will arouse interest and motivate donors to become partners in KKL-JNF's significant work.

Other materials are available on your "credit card" disk on key and on the Partnership site:
<http://hanof.kkl.org.il/partnership>



Bon Voyage!



1. The Ilan and Assaf Ramon International Airport
2. Timna Park
3. R&D near Yotvata
3. The Southern Arava R&D Station
4. Kibbutz Ketura

Renewable Energy and Food Security

Group no.3



The Ilan and
Assaf Ramon
International Airport

A new international airport is now being developed near Timna, 19 kilometers north of Eilat, off the Arava Highway. The airport will be named for the late Israeli astronaut Ilan Ramon and his son Assaf. Ilan Ramon was

the first Israeli astronaut, who was killed in the Columbia space shuttle tragedy. His son Assaf Ramon was a pilot in the Israel Air Force who was killed in a training exercise. The airport is slated to replace the existing airport at Eilat that creates pollution and prevents further development of the city. It was planned with the utmost consideration for the sensitive desert environment and will improve the efficiency of local produce shipping to international markets. The current airport will be used to develop housing and commercial projects. KKL-JNF is now constructing the embankments that will protect the airfield from flooding and that are a pre-condition for developing the airport. This is an extensive project that involves equipment and experts from the field of construction and drainage.



Timna Park

Timna Park is located in the southern Arava, about 30 kilometers north of Eilat. The site was used for copper mining in ancient times, an industry that was revived in the 1950s, but were finally halted in 1984, although there are now plans to begin mining again. After mining in the area ended, artesian water sources flooded the mine, leading to the creation of Timna lake. Timna Park offers diverse activities, including nature walks, bicycles for rent to make the most of the extensive trail system, sailing on the lake, camel rides and desert hospitality, craft activities, and so forth. Facilities also include a lakeside restaurant and a souvenir shop. Sheltered areas are also available for visitors to

sleep in the field, as well as bathroom facilities and hot showers. With the help of its friends in the USA and Germany, KKL-JNF funded many projects and developments in the park, which is a major tourist attraction in the region that provides local residents with an additional source of income. KKL-JNF is now involved in developing a new visitor center in the park and in planning an amphitheater and additional camping sites.



Regional Center for Renewable Energy R&D near Yotvata

KKL-JNF and its partners (Ministry of Regional Cooperation, the Eilat Regional Council, Jewish Federations of Canada and the USA) are developing the Regional Center for Renewable Energy R&D. The center will bring together scientists specializing in this field and attract additional experts to the area. The planned building will adhere to the principles of renewability by repairing, expanding and improving an existing building that is no longer in use. The proposed retrofit will be modular and can be implemented in stages. The building will be developed according to the highest environmental standards. As with so many KKL-JNF development projects, the Regional Center for Renewable Energy R&D will provide jobs and boost the local economy.



The Southern Arava R&D Station

The Southern Arava R&D Station operates in the most arid area in Israel, resulting from a combination of low rainfall and the constraint to use only brackish water from local bores for irrigation. The station focuses on developing suitable technology for sustainable farming in these unique conditions. Agriculture is a major element in the economy of the Eilat Regional Council with whom the station works: it comprises close to 40% of the regional economy. Close to 4500 acres (140,000 hectares), are farmed in the region. Research focuses primarily on topics related to date cultivation, the major crop, but also on vegetables, flowers, effective irrigation, use of agricultural waste and production of nutritional supplements from medicinal plants. Studies cover varied technological topics, mainly related to storage and packaging, and many concentrate on the use of brackish water for irrigation. Much of the research conducted at the station is directed at improving food security in other desert regions in the world.



Kibbutz Ketura

Ketura is a kibbutz located 50 kilometers north of Eilat, in the southern Arava. Jewish tradition at the kibbutz has become a focus for cooperation, tolerance and mutual respect. One-third of the members are native Israelis; the majority of the immigrants come from

English-speaking countries, with a smaller number from Europe and the former USSR. Ketura is home to the Arava Institute for Environmental Studies. The institute aims to identify the key conservation and environmental issues in the Arava, coordinate the environmental movement's work in the region and initiate eco-activism on the local and national levels. The Arava Institute offers innovative environmental studies programs. Students explore a range of environmental issues from a regional, interdisciplinary perspective. Participants come from the Middle East as well as from North America and the rest of the world for study in Israel. KKL-JNF developed infrastructure for the kibbutz dining hall, parking areas, roads and housing, as well as financing scholarships for Jewish and Arab students from all over the Middle East at the Arava Institute.

Ketura is now developing an "ecological village" that will display "low-tech" technologies that do not use conventional electricity, but alternative forms of energy (guided by experts from the Regional Center for Renewable Energy R&D). The village aims at developing alternative energy solutions for sites in the world that cannot access conventional energy. In its first stage the village will have 4 buildings and will hold seminars and courses related to renewable energy.





Notes

Notes

Notes

Notes



Renewable Energy and Food Security

General Background

Group no.3



Introduction

Food Security means that all people at all times have physical and economic access to adequate amounts of nutritious, safe, and appropriate foods, which are produced in an environmentally sustainable and socially just manner.

The United Nations Food and Agriculture Organization (FAO) estimates that by 2050, a 70 percent increase in current food production will be necessary to meet the expanding demand for food. The global food sector is still highly dependent on fossil fuels. The type of energy we use in the agrifood chain and how we use it will determine whether our food systems will be able to meet future food security goals and support broader development objectives in an environmentally sustainable manner. Our ability to reach food productivity targets may be limited in the future by a lack of inexpensive fossil fuels. Higher fuel prices raise food prices, which in turn affect food security.

We need to rethink the role of energy when considering our options for improving food systems. Currently the food sector contributes over 20 percent of total greenhouse gases emissions. The challenges facing the world regarding food production are how to develop food systems that are not reliant on fossil fuel and that produce fewer greenhouse gases emissions. This will provide a reliable energy supply that can at the same time support food security and sustainable development.

Renewable energy systems have many advantages, but for our purposes, we will mention two: they reduce the food sector's dependence on fossil fuels and they reduce greenhouse gas emissions. The combination of renewable energy with food production has the potential to increase food security by enabling more production at lower prices.

Renewable energy sources include hot water sources, wind energy, solar energy, hydroelectric power, bioenergy and geothermal energy.

The Eilat Region (Southern Arava) Regional Council

The Eilat Region (Southern Arava) Regional Council is the southernmost regional council in Israel, extends over 220,000 hectares and includes 12 communities (10 kibbutzim and two community settlements), inhabited by some 3500 people. Most of the residents make their living off modern, state-of-the-art agriculture: date palms, mainly of the Medjool strain, vegetables, dairies and marine aquaculture. Many of them are involved in tourism activity such as guest accommodations, desert tours and wayside restaurants. The region has many advantages that make it perfect for tourism – warm weather and almost no rain throughout the year and proximity to Eilat with its world famous coral reef. The weather and constant sunlight make this a perfect area for developing alternative energy sources and the regional council envisions a renewable energy "silicon valley" in the Southern Arava. The regional council encourages such initiatives and is involved in recruiting government and private support for environmentally friendly energy production.

The Eilat region has diverse renewable energy projects, many of them supported by KKL-JNF. The area has the highest concentration of solar energy fields in Israel as well as several laboratories studying alternative energy options. The first commercial solar field in Israel, built by the Arava Power Company is located at Kibbutz Ketura. The Eilat Regional Council now provides 50% of the energy requirements of the city of Eilat.



KKL-JNF with the People of the Southern Arava

KKL-JNF has been involved with the Southern Arava communities from their earliest stages helping with land preparation for housing and agriculture, infrastructure for agriculture and tourism, playgrounds, landscaping and water reservoirs. We also organize events and tours for the public. One of our most important projects is supporting regional Research and Development (R&D) stations in agricultural regions throughout Israel. These stations aim to develop new crops and improve farming techniques for existing ones, helping farmers in peripheral parts of the country compete successfully in the global produce market. The stations exploit the natural potential of peripheral regions: climate, soil, varieties of water sources and manpower quality and employ field advisors and noted researchers who work in cooperation with national academic institutes. The Southern Arava R&D Station focuses on the challenges facing farmers in the extreme climate of the Arava and the use of modern innovative methods to create efficient, productive agriculture in the desert. There is also research on effective water use to prevent aquifer salinization and to save water.

KKL-JNF Looks into the Future

In addition to its historic support for agriculture in peripheral areas, such as the Southern Arava, KKL-JNF is looking ahead to the future and focusing on renewable energy in the region. The combination of modern agriculture and renewable energy will have a significant impact on improving food security. Four different institutions are involved in studying and developing renewable energy sources in southern Israel: the Arava Institute for Environmental Studies, the Dead Sea and Arava Science Center, the Ben Gurion University Campus in Eilat and the Southern Arava R&D Station. The Eilat-Elot Renewable Energy Administration was established in 2008 and it focuses on research and innovation and aims to become a source of employment for new residents of the area. KKL-JNF is involved in other alternative energy projects in the region, including a wind farm at Ma'ale Shaharut, environmental construction at Lotan, Ketura and Ne'ot Smadar and an ecological village at Ketura.



Selected Projects for Donation throughout Israel:

12718 – Timna – New Airport – Flood and Erosion Protection
KKL-JNF, in cooperation with the Israel Airports Authority, is planning to establish a new airport near Timna, which will eventually become an international airport. KKL-JNF is constructing two embankments to protect the runway from floods and erosion.

12456 – Timna Park – Amphitheater
KKL-JNF is planning to an amphitheater at Timna Park with a capacity of 1500, which will serve the area's residents as well visitors and tourists. The venue will be built beside the lake at KKL-JNF's Timna Park.

7380 – Southern Arava R&d Station – Research
The Southern Arava R&D Station is one of the four in Israel supported by KKL-JNF for the benefit of farmers in the region.

11741 – Southern Arava R&d Station – Support For Date Cultivation Research
Date palms are a major crop in the southern Arava and an economic mainstay for the region's farming communities. KKL-JNF is supporting research to determine the optimal irrigation regime for maximal date production with different types of water.

8844 – Southern Arava – Water And The Environment
Many crops in the southern Arava Valley are irrigated with recycled effluents – a significant water-saving step, whose environmental consequences are not yet well understood. The main crops studied will be Medjool date palms and sorghum.

11057 – Southern Arava Castor Oil-plant Plantations
KKL-JNF and the Hevel Elot Regional Council are developing castor-oil plant plantations as a source for biodiesel production. The project is part of the vision the regional council has for transforming the southern Arava into a center for alternative energy.

12270 – Arava – Samar – Preparing Land 2014
Kibbutz Samar in the southern Arava practices the principles of a collective community while respecting individual autonomy. KKL-JNF is preparing land for housing and agriculture to allow Samar to accept new members into the community.

For more information and materials: [Visit the Partnership Site/Project Pool](#)



Keren Kayemeth L'Israel-Jewish National Fund
KKL Resources, Development & Public Affairs Division
Projects & Marketing Department
Jerusalem 2015
Photos: KKL Photo Archive, Jerusalem
www.kkl.org.il

