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## DEVELOPING THE GALILEE: THE CASE OF MIGAL

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**What are Regional Councils? / The Need for Regional Development / Galileans - A Hardy Breed / The Upper Galilee's Initial Economic Base / MIGAL - A Progress Report / Some Problems**

[Editor's Note: At its recent meeting in Tiberias, the Jewish Agency Board of Governors decided to reemphasize the development of the Galilee, voting to invest \$350 million in the region. This Jerusalem Letter focuses on one indigenous effort by residents of the Upper Galilee to bring new development to their area through the established local institutions and some newly developed ones.]

The Upper Galilee is centered in the Huleh Valley. It was there that Jewish colonization of the north began in the 1880s with Rosh Pina, Yesod Hamaalah, and Metulla. There is where Joseph Trumpeldor and his comrades-in-arms defended Tel Hai in 1921 to hold the Upper Galilee for the future Jewish state. In 1934 Jewish rights to Lake Huleh and adjacent swamps were ob-

tained by the Zionists and the actual drainage commenced in 1952. It is in the Upper Galilee that we find one of the most imaginative regional development ventures -- MIGAL -- a joint effort of the Huleh Valley settlements through the Upper Galilee Regional Council.

### What are Regional Councils?

The regional council is a basic element in all rural local government in Israel. In the late 1920s and throughout the 1930s in those areas where there were sufficient numbers of Jewish colonies to create contiguous bands of Jewish settlement, the leaders of the various kibbutzim and moshavim in the Jordan Valley, the eastern end of the Jezreel Valley, and the Huleh Valley -- the three areas with both the requisite concentration of settlements and the

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need for cooperative action -- found it useful and necessary to join together to cooperate with one another for the provision of common regional services. In 1941 the British Mandatory government of Palestine took note of this development and promulgated a law recognizing the evolving regional councils as formal local governmental bodies.

When the State of Israel was established in 1948, the Upper Galilee regional council was one of the first to be recognized. Like all other regional councils it includes kibbutzim and moshavim but not cities and towns.

Every regional council is a federation of settlements in which each kibbutz or moshav is represented equally by delegates it chooses in its own general assembly.

The regional councils, particularly the older ones among them, have retained a far greater degree of local autonomy than any other governments in Israel -- partly because a number of them antedate the establishment of the state and had the experience of being virtually autonomous, and partly because of the special place their component units, especially the kibbutzim, occupy in Israeli society.

Essentially, regional councils have the power to tax in order to provide services such as health, sanitation, local safety, building permits, and record-keeping. They have a consultative status in every other phase of government such as security, development, economics, and education.

### **The Need for Regional Development**

The economic progress which characterized the kibbutzim in the period of 1955-80 was the result of their flexibility in adapting to changing conditions. Rapid transition from labor-intensive crops to mechanization and to regional ventures released members for industrial development. In recent years there was a slow-down due to government policy affecting agriculture as well as to lack of foresight and the inability to adapt to changing conditions. Kibbutzim, which once sought

self-containment, came to realize that the future required fundamental adjustments -- primarily greater cooperation on a regional and countrywide basis -- in order to continue to prosper. Specifically, this involves the development of high technology applications for both industry and agriculture, something with which individual kibbutzim were unable cope. A larger framework was required to undertake the search for new products and sophisticated crops, to develop a workforce of skilled and trained professionals, and to support new research and development centers.

A regional approach helps place kibbutzim at the frontier of advancing technology with a potential for implementation far beyond the capacity of even the largest kibbutz. The disadvantage of limiting the initiative and independence of the individual kibbutz is compensated for by the stimulated interest of members and the widened scope for their accomplishments. Indeed, it is leading to a flowering of tinkering with imaginative ideas for small ventures of every variety in many kibbutzim.

### **Galileans -- A Hardy Breed**

In Israel well over 70 percent of the population is concentrated in the coastal rectangle "from Hadera to Gedera" with Tel Aviv in the center. This is the country's center of gravity in terms of political clout, finance, industry, and media. Every location away from this center is considered an outlying district and the north, by Israeli mythology, is "far away."

At its outset, Zionism made a conscious effort to encourage settlement in remote regions. From the time of the founding of the first Zionist settlements in 1882, the Galilee epitomized the pioneering spirit and drew the hardy, the romantics, and the adventurous. Based on their efforts, the Jewish Agency and the new Israeli government after 1948 were able to direct immigrants northward and established several new development towns and dozens of

moshavim in the region. Nevertheless, in 1988 the entire northern region of Israel had a population of 700,000, only 16 percent of the country's total. Historic memories of the revolt against the Romans, the Sages of the Talmud, and the Kabbalists; breath-taking, wild, natural beauty; and pioneering challenges all failed to attract the once-expected millions or even hundreds of thousands. The harsh reality of making a living in the region was a decisive factor.

Yet Galileans did not relax or wait for largess from the "center." They attacked the problems of security, settlement, natural obstacles, and economic difficulties with vigor, and claimed national support as a right. They produced a self-reliant, straight-talking, disciplined population and learned to cope with hardships as they arose.

#### **The Upper Galilee's Initial Economic Base**

MIGAL was developed by the Upper Galilee Regional Council through a subsidiary corporation, Upper Galilee Enterprises, formed under its aegis. Since the Council is a unit of local government and cannot operate economic ventures, it has established a holding company as the formal and legal entity for that purpose -- the Galilee Development Co. Ltd. The holding company is responsible for all subsidiary companies which are cooperatives of individual kibbutzim interested in specific crops or services. The financial agent for all economic activities (except for individually-owned kibbutz factories) is the Upper Galilee Purchasing Cooperative.

Forty settlements, mostly kibbutzim, with a population of 20,000, are involved in some or all of the region's cooperative economic enterprises. These include:

- 1) Transport Cooperative - Operates seventy trucks, milk and fuel tankers, specialized equipment for moving cotton, etc. It carries all produce of the area to market and brings back the required raw materials. It also engages in hauling for hire.
- 2) Poultry Dressing Co. - Slaughters and

dresses over 15,000 tons annually - pullets, turkeys, and ducks.

- 3) Meat Processing Co. - Processes and markets meat and poultry products in the form of steaks, chops, hamburgers, kabab, sausages, and smoked items.

- 4) Cold Storage Cooperative - Stores and cools under controlled atmosphere 27,000 tons of fruits and vegetables. It is the largest operation of its kind in Israel.

- 5) Apple Sorting and Packing Plant - Sorts and packages for market 20,000 tons of apples annually.

- 6) Apple Concentrate Plant - Processes over 30,000 tons of fruit annually into concentrate in drums for export. For the local market it cans and bottles natural juices from both apples and other fruit.

- 7) Avocado Sorting Plant - Sorts, packs, and markets 14,000 tons annually.

- 8) Cotton Gin - Gins 30,000 tons of cotton. Cotton is a major crop in the region, despite the unpredictable market.

- 9) Regional Laundry - Provides laundry and dry cleaning services for the area, including for United Nations personnel.

- 10) Data Processing Co. and Logal - Operates two computers with tens of terminals for accounting and data processing (on-line) for all enterprises and most kibbutzim. Logal provides programs for computers as educational aids for school and home use.

In the normal course of events, with the economic infrastructure that exists today, the direction of this economic complex should have been more and better of the same in the future. However, the limiting factors of land and water, both in short supply, necessitated new approaches. Classic agriculture must become considerably more agro-industrial. Research must uncover new resources in the area with export potential. The university and technological expertise of the younger generation is accelerating, in part due to the impact of Tel Hai College, a junior college facility linked with Haifa University and currently serving 2,000 students. These young people require outlets for their talents, or else they will seek greener

pastures in Tel Aviv or even abroad. Industry in all its variations is the imperative for the next two decades.

### **MIGAL - A Progress Report**

MIGAL -- the Galilee Technological Center -- is an imaginative and sophisticated response to the natural handicaps of distance. Established by Dan Levanon in 1979, it engages in research and development of high technology, sponsors appropriate economic enterprises by establishing pilot plants, and seeks to attract financial sponsorship. Above all, it encourages the education and training of the youth of the region towards the highest scientific and technological competence.

MIGAL is located in a well-designed, compact building in the industrial zone of Kiryat Shmona. It operates on a budget of \$3 million provided by the Jewish Agency, the Ministry of Agriculture, the Ministry of Industry and Trade, as well as by shareholders, private investors, and fees for requested services. The MIGAL staff totals 55, including 12 researchers, 6 project directors, 12 research assistants, 20 laboratory and technical workers, and 5 administrative and maintenance personnel.

In less than a decade MIGAL has developed projects in the following fields:

#### Natural Flavors and Fragrances:

During the past decade there has been a tendency in the world to use more natural substances in the food industry, especially as food additives. MIGAL has succeeded in developing an economical technology for the extraction of colors, flavors, and odor products for the food industry. Research has been conducted on two main groups of products: essential oils (steam distillation) and oleoresins (organic solvent extraction). At present, basil, caraway, celery, coriander, oregano, sage, and paprika are being used, and some products are already being exported to Europe and the United States.

#### Agriculture:

Several agricultural research and development projects are underway which focus

on the introduction of new crops into northern Israel, improvement of irrigation and fertilization systems, and development of improved animal feed. The specific fields of research are orchards, field crops, vegetables, flowers, and animal husbandry. Work is also being conducted on experimental farms and other laboratories. MIGAL acts as the administrative unit for the Northern R & D Project financed by the Agricultural Research Organization of the Ministry of Agriculture and the Settlement Department of the Jewish Agency.

#### Chemical and Microbiological Laboratory:

MIGAL supplies laboratory and technical services to kibbutzim, moshavim, and agro-industries for both occasional and regular quality control. In addition to research work, the laboratory is equipped for chemical, physical, and microbiological analyses. Fields of research include hygienic conditions at poultry processing and meat packing plants; chemical analysis of animal fodder; quality of drinking and swimming pool water, bakery raw materials, and glass factory products; compost quality for mushroom growers; and water and soil microbiology. Services have recently been extended to include diagnosis of fish diseases.

#### Scientific and Technological Education:

An integrated scientific educational facility is being created at MIGAL in cooperation with Tel Hai College and Upper Galilee high schools. The facility emphasizes the life sciences and seeks to promote the academic and vocational enrichment of area students and workers. Its overall aim is the development of the manpower necessary for future scientific and technological progress in the Upper Galilee region. The integration of pupils from kibbutzim and towns through joint involvement in research is of prime importance in the context of the national need for fusion of divergent populations.

#### Aquaculture:

Research in this field is designed to

introduce new species of fish to Israel and examine the possibility of growing and marketing them in Europe. The species currently under study include eels, catfish, and exotic tropical fish. They are being investigated for the purposes of developing an economical protein and energy efficient animal feed, the determination of optimal husbandry conditions suitable for Israel, and solving problems of reproduction and processing for the fish. In addition, the growth of macroalgae in spray systems is being investigated for phycocolloids production.

#### Mushrooms:

Research is being conducted on oyster mushrooms, champignon, and other exotic varieties of mushrooms. The production of champignon and oyster mushrooms is in the stage of advanced development, under MIGAL supervision, at several commercial growing houses in kibbutzim and moshavim. Industrial techniques for oyster mushroom production have been developed and the best varieties for local conditions have been selected. The use of local raw materials as substrates for mushroom production has also been developed. The mushrooms, both fresh and frozen, are currently marketed in Israel, Europe, and the United States.

#### Animal Husbandry:

Research in environmental physiology and husbandry methods is progressing on several animals such as cattle, ducks, poultry, and red deer. The Muscovy duck, in particular, has a growing market for its lean, red meat. Research is being carried out in order to acclimatize these ducks to local conditions and develop breeding, feed, and husbandry methods. The main goal of this research is to develop and support a new export branch for Israeli farmers. About 1,000 tons per year are currently being marketed.

#### Food Technology:

A department has been established to develop marketable food products from other MIGAL projects (fish, duck, mushrooms, etc.) and from other Upper Galilee

enterprises. The primary products today are smoked eels and smoked clarias fillets, both of which have been favorably received in the European and American markets. Pates, rolls, ham, and sausages, all made from fish, are being tested for marketability. Frozen mushroom products have shown promising results.

#### Biotechnology:

Several aerobic as well as anaerobic fermentation processes are under investigation. Anaerobic methanation of slaughterhouse wastes has already progressed to the implementation stage and a demonstration plant has been erected. Anaerobic digestion of poultry manures and its inhibition by ionophores, as well as methane production from halophilic bacteria, are being studied. Some projects have also begun on the use of enzymes for chemical transformations.

#### Some Problems

1. Financing - The entire project is based on assumptions anticipating future trends and a bright potential. In that sense, financing is akin to "venture capital" without quick and large returns. Investments can be attracted from supporters, visionaries, or those who can write off tax losses in case of failure. Conservative investors have safer outlets for their money.
2. Manpower - Any area in Israel away from Tel Aviv, Jerusalem, Haifa and their environs faces inordinate difficulties in attracting first-rate professionals. Researchers and technologists love to huddle together and hate to live "way out." Justified or not, manpower is a very limiting factor and native talent does not always remain in home territory but is drawn to the metropolis.
3. Implementation - Whereas no real objections have yet been raised to the concept of regional centers, implementation is incredibly difficult. Verbal support is unrestrained. Performance in the form of budgets, manpower, laboratories, equipment, adherence to schedules, and the like

is painfully slow.

Although it evolved in response to the special needs of the Upper Galilee, MIGAL has already evoked interest in other regions as well. With the proper encouragement by those who care about the Galilee, MIGAL has the potential to become a leading factor in the future development of the region.

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