Addressess of Persons to Write Letters

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The Armand Hammer Fund for Cooperation in the Middle East

Gideon Fishelson

Israel Water Study for the World Bank
Ben -Gurion University of the Negev in cooperation with Tahal Consulting Engineers

The Projects of the Hammer Fund

Agriculture In Israel -Water Saving Technologies - Professor Dan Yaron, School of Agriculture in Rehovot.

The Role of Water in Nation Welfare, Professor Benjamin Ben-Tal, Technion
Hammer Fund has also been involved in Water Project the Institute for Social and Economic Policy in the Middle East Kennedy School of Government Harvard.
Truman Institute involved in it. Some Palestinians and Jordanians are involved in it.

Meir Ben Meir - Yokneam # 04893587 Fax 04-893502 Pilgei Maim

Interview with Meir Ben-Meir Tel -Aviv January 6, 1994

Educational and Professional Background

No formal education, was Water Commission in 1977- 81 , Director General of Ministry of Agriculture 1988-88, and in 1990-92 Head of Research Center of Ministry of Agricutlure. Among other appointments: Manager of the Sewage Authority, Tahal and Agresco. Prior to public service was a private farmer from Yokneam.

Political Affilation

Claims no political affilation, was appointed by then Minister of Agriculture Ariel Sharon, Served under Simha Erlich, Peshah Grupper, Ariek Nehemkin and Raphael Eitan, when he was made the head of the Reseasrch Center.

Question # 1: How would you review your tenure as opposed to other Water Commissioners.

Impossible to review it in a tme perspective of a singel Water Commissioner, because there are dramatic changes in the Israeli climate. A tenure of a Water Commissioner can be influenced by the character of the climatic cyckes in the region.

Question # 2: What is the most severe water problem in Israel?

The absence of an operating storage capacity is more acute than the fluctuation in climate. There is no regulator in the passages from dry to wet seasons. In a very rainy winter we do not store more that in a relatively dry one, because there is no storage capacity.

Question # 3: Did you support market mechanisms for declining with water shortages.

Against regulation through allocation and pricing. I reject it because I don't consider water and agriculture as a separate or well defined subject, but rather a one facet of a more comprehensive question of national values and life style. We have only four million dunam of arable land, do we or do we not want to keep the arable land cultured. It is not only of our interest as farmer but also in our national interest. to preserve this land. We also have a responsibility to the future generations to preserve land. In a sense, this is a biblical mandate as the Bible teaches us that the land has to preserved for future generations. Today, the thinking is that we do not need agriculture, this a form of modernization which emulates the United States where the approach is more economic (i.e. market economy). We should not do anything that would present a irreversible situation to agriculture. In stead of adopting American solutions we should try and

emulate the European community which is trying to preserve its agriculture. What is at stake here is much wider than the narrow agricultural issue.

Question # 4: Can you tell me something about the agricultural lobby?

The agricultural lobby is to a large extent an invention of academia and journalists. Even if in the past, farmers had some political importance, this is not the case today. Because of the change in voting patterns, the farmers, private and cooperative, have very little influence on policy making. One major reason for the decline of the agricultural lobby is the changing values of the Israeli society which has reverted to being a mercantile rather than agricultural society. In addition, there is an slavish emulation of all things emulating slavishly all things that are American.

Question # 5: Do your support water management through water pricing?

Does not support water management through pricing. For once, the question is not relevant as far as drinking water is concerned. More generally, we cannot introduce market mechanism into pricing because of two reasons: 1) according the Water Act, water is a public good, not a private good. Only private goods can be subject to pricing mechanisms; 2) some elements of the water supply system are not amenable to privatization, and especially the National Water Carrier 3) as long as Macerate is a governmental monopoly, realistic pricing is impossible. Macerate is not an efficiently run organization, and as a result water produced by Macerate is grossly overpriced. However, it is impossible to dismantle Macerate because it represents one of the "sacred cows" of the government. Government has no right to fix the price of water through the monopoly of Macerate.

Question # 6: Could you be more specific with regard toward the charges about ~~Macerate~~ EKOROT?

I can give you one example of the way ~~Macerate~~ EKOROT was pricing water. In my capacity as the Manager of the Sewage Reclamation Authority, I was the author of a number of reclamation programs, including the Gush Dan project and the Tishlovet Kishon reclamation system. Macerate priced the water at half a dollar per CM, but it could have been produced much cheaper (at 28 agurot 10 cent).

Question # 7 Could you comment on the problems of the balance of water in Israel

The question of balance of water is very misleading. There have been some three or four simulations to estimate the parameters of some possible scenarios. The so called 1,800 MCM "water potential" can be considered as potential as long as the flexible consumer (agriculture) is consuming 70 percent of water. In 1991, there was only one billion cube of water left . At that time the population between the Jordan and the Mediterranean was 7 million people. In a second dry cycle, when the population will reach 10 million people (and the consumption levels of Palestinians and Jews will be comparable) and the storage will by only one billion cubic meters left, there will be flexibility in the system (only drinking water). Because of the lack of flexibility, there is no balance. The draught cycle occurs every seven years or so.

If there is a another cycle of dry weather, during Water Commission two huge reclamation system Dan System 100 MCM , replacing the water from Kinneret, The Greater Haifa Area, which is expected to supply some 100 MCM to Jesreal Valley. At the moment it is supplying only 25 MCM.

Question # 8 What will happen to agriculture if Israel will use most of its water potential for domestic-industrial purposes?.

The only possible solution to the problem is large scale water reclamation programs. If reclamation is done properly, then 65% of effluence can be recycled. In the even that 1,000 MCM are targeted for domestic use, then 650,000,000 CM can be diverted to agricultural use.

Question # 9 Since you oppose market mechanisms as a solution to water problems in Israel, how do you see the future?

I do not oppose market mechanism as a principle, but I would like to see it used in conjunction with other approaches. The future is not in pricing but in inventing more water efficient ways of farming. In spite of the fact that there have been no market mechanisms in Israel, extremely efficient agricultural techniques have been invented, such as fertigation or high yield seeds. If we can double or triple the yield from a unit of water, then it would be more beneficial than using market principles only. Here again, the state and not the individual farmer can lead in technological innovation.

Interview with Arnon Sofer January 10, 1994 Haifa University.

Question # 1 Can you tell me something about the Jaffe Center Water Report?

The original idea came from the Foreign Ministry, whose Director General, the former General Abraham Tamir decided to initiate a series of long term projects pertaining to the future of Israel and the Middle East. Yitamar Rabinowitz, who was then the head of the Dayan Center was asked to develop a project about water resources in the Middle East, and he approached me to undertake the venture. I approached Nurit Kliot, a geographer at Haifa University to participate in the projects. Our initial project had a simple structure: it is based on the survey of water resources in the Middle East (which subsequently appeared in my book, *Rivers of Fire*. We submitted the project to the Ministry of Foreign Affairs and there were also operational recommendations. All the rivers were surveyed and the West Bank had its own chapter. Nurit Kliot, tended to emphasize the legal problem and the general theme of scarcity of water (her book includes many of these themes). The time framework of the original project was 1987-88.

After the initial stage, the Gaff Center approached Yehoshua Shwartz and Aharon Zohar from Tahal to develop the project. The project which has included many of the original ideas our project, but also had parts which were based on the long time work of Shwartz.

Question # 2 Why was the project not released for general publication?

The then Minister of Agriculture Raphael Eitan did not like the political and academic connotations of the projects. The current Minister of Agrictulture Yaacov Tzur and his Water Commissioner Gideon Tzur follow the policy of the Labor government. The thinking today is that if the Report was officially released, then it would look like its was legitimized by the Israeli government.

Question # 3 How close is the report by Zeev Shiff to the original report?

In essence, the Shiff report is correct and the maps which he provides are the most essential part of the report with regard to the water "red lines".

Question # 4 Why was the report suppressed?

During the tenure of Raphael Aden, the political connotation of the report went against the declared attitude of the Tzomet party about water. When Yaacov Tzur was appointed he refused to change the policy. Declassifying the report would give legitimation to the idea that Israel can withdraw without jeopardizing its water resources. However, Zohar has been appearing in all sorts of conferences and discussing the content of the report. For instance,
there was an international conference at the Negev Center for Regional Development at Ben-Gurion University in cooperation with the Lewis Center for Regional Studies. The proceedings

of the conference were published by Yehuda Grados (ed.) *The Pease Crescent: Comprehensive Regional Planning and Joint Regional Projects by Israel and her Neighbors as a Means to Promoting Peace.*

Question # 5 What is the gist of the current water negotiations?

There are two themes of negotiations, one multilateral and one bilateral with the Palestinians. The major problems are the analysis of legal aspects of ground water and surface water, riparian right to ground water are hard to solve as there are few known legal precedents. Noah Kinarati from the Jewish Agency and Ministry of Defense is involved, also teams from the State Department. Professor Uri Shamir from the Technion is involed in the negotiations.

Question # 5 What do you see as a major problem in the negotiations?

The problem of ground water is undoubtedly the most difficult to solve, as there is no exact knowledge about the amount of water in the Negev and Sinai, no one knows, and there are created around it. The other problem is organizational: the division of power and functions between the State Department, Defense Department and the Water Commissioner. In the past, when Gen. Abraham Tamir was in the State Department he initiated many comprehensive projects. Today, the lines of responsibility are not clearly defined.

Interview with Professor Dan Zaslavsky Dean, Faculty of Agriculture, Technion

Former Water Commissioner January 10, 1994

Question # 1 As a former Water Commissioner, what is in your opinion the most serious problem of the water management system in Israel?

The entire water management system need to be restructured, as a matter of fact it has to be built from scratch. The problems were especially acute until the end of the tenure of Zemah Ishai. When I took over, there was no professionalism in the Water Commission, there were only were only four engineers in the Water Commission itself and the institution depended entirely on Tahal and Mekorot. This was a very unhealthy situation because the Water Commission, by law, is supposed to oversee Tahal and Mekorot. The Water Commission had no professional status and authority and its Review Committee [Vaad Shiput] (in charge of approving the plans and projects proposed by Tahal and Mekerot, depends on the professional opinion of planners and engineers from Tahal and Mekorot. In addition, the, Review Committee works without well defined standards and rules, and its dealings with Tahal and Mekorot reflects this reality. For instance, most of the projects which Tahal was asked to undertake where not reviewed beforehand, in many instances the projects were not accepted, again without a review process, but on those cases where projects were carried out, they were finished before they were officially approved by the Water Commission. The lack of oversight has also resulted in time and budget overruns by Tahal.

Question # 2 Have you tried to change the situation, and what were the results?

When I wanted to change, I discovered that it is impossible to reform the system because of the Ministry of Finance. The Budget Office of the Ministry of Finance has a nonwritten rule which said that *projects that were not approved would not get money for planning.* This created an absurd situation, whereby planning could not be carried out, unless the project was approved a priori by the Ministry of Finance. The result of the system was that there was no planning for large regional and national projects and no overall strategic thinking.

Question # 3 How has this particular system affected the relations between the Water Commission and Tahal and Mekorot ?

Because Tahal and Mekorot achieved a hegemonic portion in the water system in Israel, it enabled them to create a de facto cartel. Instead of competing for projects, there was an unofficial agreement between the two companies to exaggerate the cost of the projects. This way Tahal would make more money and Macerate could operate without taking any financial risks or even enjoyed a comfortable profit margin. The result was that the production cost of water in Macerate projects was very high, at in certain projects reached 1.21 shekel in 1991 (50 cents) per CM. For instance, the Gush Dan reclamation project cost more than a shekel per CM and Tishlovet Kishon 1.2 shekel per CM. More realistic prices should have been up to 0.3

shekel per CM. Macerate is a natural monopoly and it makes all questions of privatization dubious.

The same problem occurred in the desalination plans. During my tenure as Water Commissioner, I insisted that there should be competitive bidding on water projects, including desalination projects. In one of the bidding on a desalination project, Macerate won against another private company. However, in spite of the fact that Macerate submitted the lowest bid, the actual cost of desalination was much higher because of subsequent cost overruns.

Question # 4: In the light of your experience in the Water Commission, how would you evaluate the Ben-Port Report?

I do view the Ben-Porat report as very important in illuminating some of the most important problems in water management in Israel. However, the report did not focus on what is probably the most important reason in water management in Israel, namely the function of the Finance Ministry in water management. For more than a decade since I became Water Commissioner , the Budget Department of the Finance Ministry has not approved any large scale water development projects. In fact, since the construction of the National Water Carrier, there has been no national planning of water projects in Israel. Because the Finance Ministry gave only small piecemeal sums, rather than overall budgets, the costs of construction of any given project have normally doubled (because of interest charges and cost overruns related to the lack of money to finish the project). For instance, the Negev line that was expected to carry reclaimed water to the Negev, has been in the process of construction for many years. As a result, fresh water was wasted in great quantities.

The real reason for the policy of the Finance Ministry was related to the fact that farmers have not payed the real cost of producing water. The undeclared policy of the Department of Finance was that as long as the farmers are not going to pay the real cost of water, there is no need to develop more water resources. This particular policy, although somewhat justified from the perspective of the Ministry of Finance, has had an extremely detrimental effect on the overall water situation in Israel. **In the absence of new water projects, including reclamation and water desalination, damage has been inflicted on the water aquifers.** The policy caused the continuous use of fresh water and the overpumping of the Coastal Plain aquifer. Now the overall damage to Israel water resources is great and irreversible. The Comptroller did not realize that this was the core of the problem and has not included it in its report.

When I became Water Commissioner, (August 1991) I explained this problem to the then Minister of Finance, Yitzhak Modai and he released a large budget for overall planning of water projects. In spite of the fact that we had some disagreements, there was trust betweeen the Water Commission and the Finance Ministry during my tenure.

Question # 5 Why are the relation between the Ministry of Finance and Water Commission so bad?

The major reason for the bad relations is the historical lack of trust between the Ministry of finance and the Water Commission and the Ministry of Agriculture. Because of the lack of trust the entire system does not work. The lack of trust has stemmed from the fact that perception in the Ministry of Finance is that the Water Commission is laying about facts and figures. Because there is no professionalism in the Water Commission, and there are no professional ideas, everything is subject to debate and negotiations. This particular lack of professionalism leads to a culture in the Water Commission where two and two can be five or three. When I was Water Commissioner, I tried to change this culture and a more trustworthy relation between the Commission and the Ministry of Finance was built. However, my insistence on professionalism lead the new Minister of Agriculture, Yaakov Tzur to fire me. When he was appointed, I told him that the system is not working, but Tzur, who represents the old culture in the Water Commission, could not tolerate me. The old style politicians cannot operate in a honest and professional way, they are not used to it. They are allergic to this. They cannot stand it.

Question # 6 Can you elaborate upon the issue of the "old culture" in the water management system.

The entire system is twisted and non-functional. Even the famed "water lobby" does not serve the interests of the farmers. The lobby is represented by professional lobbyists like Simcha Assaf, who only rethorically declares his concern for farmers, but in reality cares only about his won job. Assaf and other "activists are self serving and they have harmed the real interests of the farmers. Today, even the farmers understand that if you do not use water correctly, in the long run the entire future of agriculture is in jeopardy. When I was fired by the Minister of Agriculture, I received many letters from farmers who wanted me to stay on.

Question # 7 Were you to continue as the Water Commissioner, how would you deal with improving the system?

There are some urgent reforms that need to be carried out for the water management system to work properly. First off all, there is a need to create a Coordinating Committee, to oversee the planning and execution activities in the entire water field. There is a need to institute rules for bidding, opening the planning process to private firms and to stimulate the competition. For instance, in one of the sewage reclamation projects, the bidding was open, whereby both Tahal and a private firm participated. There is a need for national planning and not just the piecemeal approach that I have mentioned before. The same principles apply to desalination, where there is an urgent need to open the bidding in a competitive manner When I was Water Commissioner, I started to institute all these reforms.

One of the important issues that I wanted to address was the Review Commission and the review process of projects. Every project need to have a review panel and a referee that would follow

the project from the planning to the execution stage. Because of the absence of such a procedure, the cost of the projects is more than fourfold from the initial budget estimate.

Another issue that need to be addressed is what can be termed the physiology of the engineering operations. What I mean by physiology is the overall view of the project and how it relates to other projects and the overall mission. If you do not have such an overview, mistakes and cost overruns are inevitable. Engineers work at the very basic level and thus there need to be a more comprehensive review of the situation. The overall mission has to be defined, and performance evaluated with regard to the overall mission. There also need to be an openness in the water management system which would allow for creativity. Like in matter of national-military strategy, so in water there needs to be a process whereby alternatives and scenarios are generated. However, as I already pointed out, such a process has not existed for decades and there is no national planning or debate.

An additional issue that needs to be addressed it the separation of the different branches involved in the water management process. One of the major deficiencies in the process can be attributed to the fact that in the system today, there is no separation between the various elements of water managment. Since there is no separation of authorities, the planner also executes the project and also serves as its inspector. For instance, in most cases, Mekorot is the planner, the inspector and also builds the project. The result of this process is that Mekorot represents a **natural monopoly.** Natural monopolies are monopolies where the fixed investment is so high that introduction of a competition will only add economic activity in which the required fixed investment is so high that the relevant range of activity is such that the average cost are decreasing. If one unit is producing q at an average cost of c, splitting the production equally between two units, each of which will produce q/2 the average cost will then be c1 when c1 is greater that c, then the overall cost will be $c1q > cq$. As a result, part of the Mekorot monopoly like the National Carrier should be left as a monopoly, , but construction should be privatized. Mekorot should be the body that issues construction tenders and designs the specification for the tenders. The big question is who will supervise the bidding process? Ideally, it should be done by the Water Commission, but the Water Commission is not professional enought to carry this task out. As a result, all plans for the privatization of the water system in Israel cannot be carried out. The state (in this case, the Water Commission cannot serve the function of a supervise because the state is not a "rational" decision maker. As in many comparable situations, the political system in Israel represents local and parochial interests.

A related issue here is that in matters of water, there is no consumer in the normal sense of the term. By default, the state becomes the customer, but because of the limitation of the state, it cannot serve as a good consumer. The state does not understand water issues and thus cannot provide guidance and input.

Question # 8 What is your opinion about the ideas to abolish the Water Commission and create an independent Water Authority?

At a certain point in time there was an agreement to liquidate the Water Commission, and institute a Water Authority. In one of the versions, Tahal or Mekorot was supposed to become core of the new Authority. However, this is not a good idea, because Mekorot is a natural monopoly. the Ministry of Finance which supported the idea of abolishing the Water Commission and establishing the Water Authority did not understand the fact Mekorot is a natural monopoly. In any case, there is a need to restructure Mekorot. Mekorot needs to wheel from other resources, and there is a need to seperate between Mekorot as a management and construction body. The preferred solution will be for Mekorot to use private market firms and processes in the construction process. Only after such a reform is carried out, will the water cost reflect market prices, at the moment, the price does not reflect the cost, as there is no competition in the water production market. By the way, water is a metaphor for every other system in Israel, and the same situation obtains in other utilities.

The problem of the eastern aquifer, and the moment there is no clarity with regard to the amount of water that is draining on the eastern side of the mountain aquifer, probably some 150 MCM. The problem was highlighted with regard to the Herodion drilling where it was not known whether it would add to the available pool, or whether it would tap into the existing one.

Water planning Authority which would take over part of the governmental activities of Tahal. which would operate a regime of high salaries to attract better personal.

Question # 9 What is the water balance today?

There are a number of problems with regard to the definition of the water balance in Israel. The real question here is what is the amount of water that we have to our disposal. There are a number of problems that make the evaluation of how much proven reserves do we have difficult. First of all, there is the question of whether we can use saline water. Some hydrologists claim some 150 MC of saline water can be included in the water reserve, but it is not clear whether we should consider this part of our water balance. Second, there is no clarity with regard to how much water can we use in the Mountain Aquifer, as some of the water is (about 150 MCM) is flowing east of the watershed and cannot be considered part of the national reserve. This problem was highlighted with regard to the drilling in Herodion, where the debate was whether this ground water represents an addition to the proven resources or it taps the extant ones. Third, when we speak about the water balance we need to talk about different types of probabilities. For instance, in 1991, I could relay on 800-900 MC in terms of 100% probability of availability, in addition to some 300 MC in lower probability. So every time we speak about balance we need to specify the probabilities involved and the different quantities attached to different probabilities. Much dependents on extant and future plans for catchments etc...
In any case, with regard to the balance, we have overpumped the aquifers systematically, even though I ordered the cuts in allocation in 1991.

Question # 10 What will be the consequence of the constant overpumping?

I view this problem with extreme gravity, because it is more complex than we have traditionally assumed. The orthodox hydrological theory says that we can withdraw from the aquifers the same amount that is "put in" in any given year, or some type of an average. However, in my opinion, we need to withdraw 1/3 less than is put in, because this amount of water is needed to create the necessary circulation to wash out the minerals. If the process is not carried out, then there is a constant increase in the deposits in the aquifers. **In Israel, we have a constant process of deterioration of the quality of water in the aquifers by 3-5mg of minerals a year.** If this process is not reversed the quality of water will deteriorate badly within a decade or so.

Question # 11 What can you tell me about the Jaffe Center Water Report?

The Jaffe Center, paid Tahal 180,000 dollar, (Yehoshua Shwartz and Aharon Zohar) to prepare a comprehensive report. Most of the work was done by Zohar, since Shwartz was at that time in Ghana. I am not at liberty to disclose the content of the report, which has not been released for publication by consecutive Israeli governments. All I can say is that there is a lot of good information in the report which includes data on Israel and other countries in the Middle East. One of the important that the report highlights is the great disparity between the water consumption per capita in different Middle East countries. Israel consumed 360- 380, CM per person in 1992, which is a good indication of how much the country can get by. By comparison Syria consumed in the same year 2000 CM per person in Syria, Iraq had 4000 CM, and Lebanon used 1200 CM per capita. At the same time, Jordan had less than 300 CM. Theses comparative figures show that we can live quite O.K. with about 400 CM per person, the situation in Israel is not bad at all. It also indicates that water is a question of management and even though management in Israel is not the best, it is still possible to survive on less than 400 CM.

These numbers have an important implication for the water projects of the World Bank. How much water the country need is a subjective rather than an objective question. The figures that these projects come up with represent what a country wants not what it needs. Even though Israel has less than 400 CM per person, no one is suffering because of it, people take showers every day and there are even gardens around the houses.

Question # 12 What about some of the disputed parts of the Water Report?

The problem with the Jaffe Center Water Report is that there are some some things that should not have been published, because they represent political opinion of some persons rather than facts. Basically they are speculation for political reasons. I tried to prevent the interpretation of the original work, but was overruled by Aharon Yariv and the Director General of Tahal Avigdor Ben-Gal. Some of the work on the project was sloppy, for instance, they cited secret files of the Israeli Government without specifiying. Another tactic that was used was to change the meaning of certain known facts and figures and give them a political interpretation. For instance, one of the maps in the Report was based on a map which has been displayed in the Kinneret Authority. The map show the watershed on the Golan Height, and a line on the eastern side of the watershed where there would be no danger of contamination of the Kinneret, from using pasture by the Syrians. The map was published with a differnet caption which said

"possible retreat lines". I asked them to correct this particular interpretation , but they refused. The second one was a table that showed water use from various sources in 1991, and the table indicated a dramatic increase in water use since 1967. However, we did not use more water 1967. The only addition was the 30 MCM from the Mountain aquifer.

The Report also shows that Syria, in spite of having at its disposal 2000 CM per person, has been stealing 200 MCM annually form the Jordanians. The agreement spoke about 90 MCM form Yarmuk, but the Syrian have been using "salami" tactics to ever increase their intake from the Yarmelke. This fact has not been publicized internationally, because the water issue is so politicized that only the Israeli alleged infringments are focused on.

Question # 13 How would the peace process (giving up control over the West Bank) affect the water situation in Israel?

There are a number of implications for the water issue. First, we can expect the Arabs in the West Bank to improve their standard of living and thus their water consumption will also increase. At the moment, the Mountain aquifer is already being overpumped, and in a draught year there will be reserve left in the aquifer and the Palestinians will face an uncontrollable urge to overuse the water. Since they do not have the Plains aquifer to balance the water table, the damage will be great.

From the perspective of Israel, retaining the West Bank as an answer to its water needs is at best short term, and highly exaggerated. Even if Israel can get 100 MC by continuing retention this is not going to solve long term needs, i.e. the necessity to increase the water resources by 30-50 MC annually. For both Israel and the West Bank, the only solution is desalination and since West Bank has no access to sea, it will depend on cooperation with Israel At the moment, desalination is negligible, amounts to about 20 MC, but much more is needed. .

Question # 14 What do you see as possible solution to the impeding water shortage in Israel. Solutions to the water problems can only come from massive programs of desalination. In this sense, both Israel and Jordan are facing the same problem and need the same solutions. In addition, there has been a failure in agricultural planning and development of plants that can utilize the winter waters. There was no thinking in this direction.

Question # 15 What is the state of water reclamation programs today?

In spite of the huge budgets devoted to sewage reclamation programs only about 20% of affluence has been reclaimed so far. One of the reasons for the poor record was the lack of coordination, but then the Sewage Commission was created, under the prodding of Yehezkel Hameleh who was the Director General of the Economic Ministry. The Commission was headed by David Milgrom and had a promising start, but now he left and not much work is being done.

Question # 16 Given the grave water problems of Israel, how do you see the present Labor leadership in water issues?

The present Labor leadership is a continuation of the past practices of the Labor party in which the farmers lobby is given priority over national goals. Yaakov Tzur, the present Minister of Agriculture, is a member of Kibbutz Nativ Lamet Het, used to be a teacher of Tanach, then went into politics, in the previous Labor governments was the Minister of Absorption and Minister of Health and in both jobs failed miserably. He failed the internal primary elections in the Labor party and was nominated for the position because he was a follower of Rabin. The former Minister of Agriculture Katz - Oz was a follower of Shimon Peres. When Rabin introduced his new government, Tour had the rare distinction of being booed by the members. He has no professional background and has no capacity to listen to professional advise. His choice for the Water Commissioner, Gideon Tour is also not a professional and was the deputy Water Commissioner under Tzemah Yishai (who failed very badly during his tenure).

Interview with Abraham Brichta, Political Scientists specializing in Knessest representations and the author of a number of books on the subject January

Question # 1 You have done one of the first works on political representation in the Knesset since 1948. What were the results of your investigation of the Politics of Water in Israel since independence?

Since the first Knesset, there was an extremely strong water lobby in the Knesset - overrepresentation of farmers from both kibbutzim and moshavim. The ethos of agriculture in the Zionist and socialist creed have made the kibbutz and moshavim movement the primary political force in the country. Organizationally, the kibbutz and moshavim movement was better equipped to engage in politics than other sectors. The kibbutz could release people to work for political parties, and this was a highly motivated and highly educated element. . In addition, they could give material help to the parties, and provide logistic support, especially during elections, which can still be very important.

Question # 2 What about the political leadership?

In the first years after independence, most of the top leadership of Mapam came from kibbutzim. The two top leaders were the legendary Meir Yaari and Yaacov Hazan who represented the agricultural ethos of Zionism. Although most of the electoral support came from the urban sector, the kibbutz leadership was very important. In addition there was Yitzhak Ben-Aharon who became the Histadrut leader. Shmuel Dayan represented the moshavim.

Question # 3 What about the post-founding generation ?

Even in the "second" generation of leadership many in Labor came from kibbutzim; Yaacov Tzur, a member of Netiv Lamet Hei, or Dani Rozoli, a member of kibbutz Kabbri reached an important position of power in the Labor party. Other important kibbutz members were Gad Yaacobi, a member of Kfar Vitkin, and Moshe Dayan was Minister of Agriculture. When Dayan was the Minister of Agriculture and he summoned Yaacobi from Kfar Vitkin. Additional figures were Ami Assaf, from Moshav Baratz. Another important figure was Haim Givati from kibbutz Iftah (third aliya) and Yosef Baratz who was a member of the first Knesset. Additional representatives of the farmers were Pinhas Lavon, Levi Eshkol who, after finishing a tenure as the Agricultural Minister became the Finance Minister and finally the Prime Minster. Kadish Luz was from Dgania Bet. Peretz Naftali was the only early Minister of Agriculture who was not from a kibbutz (third aliya).

Question # 4 Have all kibbutz members represented the farmers interests with equal zeal?

In my work, I make a distinction between the authentic and declared profession. Although a kibbutz or moshav address was necessary, the "declared" kibbutz or moshav members lived in a town, with only a perfunctory role in the kibbutz, i.e. Yigal Alon. But even the "declared"

members deferred to the authentic kibbutz representatives and thus agricultural interests were overrepresented.

Question # 5 Has there been any difference between the fist and second generation agricultural leaders?

There has been a definite difference, especially when Dayan became the Minister of Agriculture. Dayan had a more modern approach to agriculture, although one cannon call it a market approach, he was definitely committed to a more efficient policy. This new efficiency approach started with the "young circles" in Mapai, which included Gad Yaakovi, Aharon Remez and others. They wanted democratization in the party and modernization in the agriculture sector. Dayan insisted that farming has to be self sufficient and insisted on exports. At that time there was also the new thinking in Israel that the every thing should be more modern.

Question # 5 When would you say, was there a decline in the power of the agricultural lobby.

In the last decade there was a real change, because the kibbutz lost it place in the national ethos. There is a real crisis in the kibbutz movement and the moshav movement today, and the emphasis is on industry. The kibbutzim started to transfer to industry, followed by moshavim. All the pioneering and successful kibbutzim depend on industry today. Degania A, the first kibbutz in Palestine has a successful factory which manufactures blades for aircraft engines. Without industry kibbutzim would not have survived. The agricultural sector is in heavy debt and that is why the Finance Ministry wants tax more heavily the farmers. There is also the problem of large overproduction in Israel.

Question # 6 What were the additional reasons for the decline of the agricultural ethos?

The growing corruption and financial scandals that rocked the farming sector had an important contributing effect. The kibbutzim and moshavim participated heavily in the infamous stock market speculation that lead to the collapse of the stock exchange in Israel 1977-83 and lost millions of dollars in bad investments. Also, there were rumors of personal corruption as in the case of Abraham Katz-Oz, a supporter of Shimon Peres in the Labor party.

Interview with a Water Commission official, not for attribution, January 9,1994

Question # Could you comment on the role of the agricultural lobby in setting the price of water?

There are official publication, Water Law 1959 and other official publications there are in the possession of the Office of Government publications which set out the ways in which water prices are fixed. The lobby is very strong, and as a result, the price of water has been historically very low. The charge is 60 agurot for agriculture, there was an intention to increase it to 90 agurut, but there was no increase. Mekorot which is supplying 70 % of the water is charging this price. The urban consumer is charged 2-4 shekel for CM; Mekorot is selling the water to a town, the town is adding the cost of transfer but even so the disparity between the agricultural and urban sector are not justifying. The reason that the urban consumers are paying such a high price is that there is no corresponding lobby of urban consumers.

Question # 2 Have there been any changes in the pricing techniques?

Generally speaking, pricing techniques are explained and published in the various water regulations which include the way in which Keren Izun works. Up to now, I was given the cost of water, which was based on the Mekorot cost plus demand. Ministry of Finance wants to change this practice, but the lobby does not want. In October 1991 came new regulations because of the pressure of the Ministry of Finance. The new price of water has to reflect the real costs, including real amortization, adjusted capital and real interest rates on capital. The new changes were ordered by Bagatz (the Supreme Court) which was petitioned by one of the Water Associations.

One examples of how subsidies work in the case of Mekorot. In 1992, Mekorot charged the farmers 60 agurut for a CM. However, the real cost was much higher. For instance, Mekorot sold 1,093 MCM at a real cost without recharge of 675 million shekel, meaning that a CM should have cost 61.7 agurot. In addition, there was a subsidy of 130 million shekel and another one of 23 million shekel which would have mean an additional 11,9 agurot per CM.

Question # 2 Could you comment on Mekorot as a natural monopoly?

In 1992 Mekorot sold 1, 017 MCM, out of it 608 MCM to agriculture , 72 MCM to industry and 337 MCM to urban consumers. In 1993 1, 097 MCM were sold , 746 MCM to agriculture, 72 MCM to industry and 354 MCM to urban customers. In 1994 1,172 MCM water sold, to agriculture 720 MCM, 80 MCM to industry and 372 MCM urban. This represents 65% of all water in Israel .

Interview with Gideon Tzur, Water Commissioner, January 20, 1994

Question # 1 What is your professional background?

Born in Kibbutz Negba, after army service joined the Water Commissioner as a technician in the hydrometry department. In the early days worked in hydromtrics and in developing instruments for water measurements. Partial education in mathematics, engineering and business management. Since 1977 served as Deputy Water Commissioner, first under Meir Ben-Meir, then under Tzemah Ishai and then Professor Dan Zaslavsky. Became Water Commissioner in 1992, after Professor Zaslavsky was asked to leave.

Question #2 What is you opinion of the Comptroller Report?

I should emphasize that the Report was very unfair and that it was heavily influenced by the thinking of one person, Mr. Gabizon from the Hydrological Service. It was especially unfair to Tzemah Ishai and did him a personal injustice. The problems in the Water Commission, then and now are not personal but systemic and are beyond the capacity of any one Water Commissioner to solve.

Question # 3 What are the systemic problems that you allude to ?

The origin of the problem is the agricultural myth in early Zionist thinking. The myth had two parts; first, that agriculture should be the centerpiece of the Zionist endeavor and second, that is not necessary related to market mechanisms. The early Water Commissioners reflected that position with regard to both pricing and quotas. Even when the system was running out of water it was very difficult for a Water Commissioner to stand up to the pressure of the farmers lobby. When the first serious draught took place during the tenure of Mein Ben-Mein, he could not change his thinking because he was part of the myth

Question # 4 When would say that the agricultural- Zionist myth started to loose its grip?

The very serious drought in the late 1980's have changed the attitude towards agriculture. In spite of the fact that Tzemah Ishai was maligned in the Report, it was he that actually decided to order the first serious cuts. These cuts were later implemented by Professsor Dan Zaslavsky, although the idea originated with Tzemah Ishai. In fact, Professor Zaslavsky wanted a deeper cut in allocations, but did not get it.

Question #5 How significant is the farmers lobby today?

The farmers lobby is still a significant element in the political culture in Israel?

The farmers still posse an important political block and they pressure the Ministry of Agriculture. They reject the idea that they have to live by market principles because they say

that in all other countries farmers are subsidized by the government, i.e. France, United States etc. At the same time, the Zionist agricultural myth was tarnished, because of the crisis in agriculture, the debt problem and the issue of foreign work in agriculture.

Question # 6 Have you any estimates how many foreigners i.e. non-Israelis work in agriculture today?

I know that there are many Arabs and workers from Thailand who work on the farms, but as far as I know there have been no surveys on the subject. I suggest that you approach Ora Namir (Minister of Labor and Welfare), maybe she would have the numbers.

Question # 7 What is the current water balance and water allocation?

I should emphasize that the notion of water potential which is normally estimated at 1,800 MCM is not a reliable notion because the estimates include different probability levels. At the moment the allocation stands at 1,350 MCM for agriculture, 150 MCM for industry and 480 MCM for domestic use. However, because of the new "step system", whereby farmers are charged three different prices for water (some very inexpensive, some more expensive and some even more expensive), they do not use the entire 1,350 MCM allocation. In fact, they only use about 1,000 MCM.

Question # 8 How would you rank the strength of the water lobby today?

In 1991, when there was a 38% reduction in water quotas, and the state had to pay 250 million shekel to the farmers. Today, there is less pressure because of erosion in the public standing of the farmers. In addition to the large debt of the agricultural sector (10 billion shekel), there is also the question of foreign workers. The public does not want to support farmers who employ Arab and Thai workers, this is not part of the Zionist ethos. On the other hand, it should be clear that without cheap labor (in addition to cheap water) Israeli agriculture cannot be profitable.

Question # 9 Could you comment on the question of water quality in Israel and especially charges of the Vulkani Institute about "cover-up" on issues of water quality control ?

As a far as I know, Mekorot does not prevent the proper authorities from conducting regular water quality check-ups. The Ministry of Health is in charge of over-all water quality control and they conduct all the necessary checks, including bacteriological and heavy metals. With regard to the argument that the use of recycled water introduces a new element of contamination of ground water, there is a danger for the future, it is 'time bomb". With regard to the argument of Professor Zaslavsky about the need to use only 2/3 of the input into ground water, so that that the salinity is flushed out from the aquifers, I totally agree. We are using this technique now which cost us 50-60 MC annually. Professor Zaslavsky suggested that we can devise a system to "catch" this water just before it flows into the sea, but it would probably be to expensive, one dollar per CM.

Question # 10 How do you see the future of agriculture in Israel?

There is a need to get agriculture from the Coastal Plain aquifer and transfer it to the Negev where recycled water can be used. Already today, there is a movement of converting agricultural land into urban areas along the Haifa- Tel Aviv line. I hope that this process will accelarate to the point where there will be little agriculture left on top of the Coastal Plain aquifer.

Industrialization: A New Dimension in Rural Settlements

Jewish Agency, The Department for Rural Settlement, 1978

The Need for Industrialization

According to research, Israel has already exhausted it land and water potential. Since there is no more agricultural potential left, the problems of the "second generation" in rural settlements became acute. Rural youth has received the same type of education as the urban one, and thus can compete successfully in urban areas. However, the young generation is interested in continued living in rural areas. The problem is especially acute for young couples who cannot purchase a farm. There is also a new phenomenon of immigrants who want to live in rural areas, and who specifically came to Israel for this purpose.

The Role of the Settlement Department in Industrialization

Since the yearly years of the state, the Settlement Department has created more than 500 hundreds rural settlements. At this moment only 193 settlements still need help from the Department. It is expected that in the next three years it will be possible to terminate this help.

The role of the Agency has been fixed in the 1952 Knesset law, but the struggle between the Jewish Agency and the government over rural settlements has only ended in 1954.

The Settlement Department has initiated a industrial policy in 1973 by creating a joined body of the Department and Diaspora Jews to explore ways of industrializing the moshavim. The Agency helps the settlers with start-up capital, which comes in the form of loans. The Agency created a body called Rural Industrialization Ltd. and this body does the initial viability analysis. The loans to industrial firms in rural areas can reach up to 70 percent and the entrepreneurs are responsible for rising the rest 30 percent.

In the past three years, 85 million IL was invested in rural industry, but only 21 million (25 percent) came from the Jewish Agency. The rest came from other governmental sources. In addition, the Jewish Agency is responsible for creating the infrastructure for the proposed industrial sites. These rural industries have created some 600 jobs.

Conclusions

Creating settlements in sparsely populated areas is a major challenge for the Agency. At the same time, there is a need to provide jobs for the "second generation". The industrial policy adopted by the Agency has proved itself successful in achieving these two goals. At the same time, the project has not been without its faults. However, it is incumbent upon the Jewish Agency to continue to take risks in face of immigration needs. As a result, the industrial ventures have to be evaluated on the basis of human and social needs, not only economic ones.

One of the outcomes of the policy large urban areas in Israel in which most of the population lives, has been the existence of poverty and social urban decay. Urban life has also eroded the basic unit of the society, the family. Small industrial -rural communities can restore the social fabric of the society, as well as to develop technologically advanced forms of industrialization.

Survey of Rural Industries

According to the survey of rural industries, some 33% are involved in plastics, 17% are in metals, 6% are in electronics, 6% are in food, 6% are computer services and 32% -others (wood, glass and optics). Geographically, 7 are in the Galilee, 3 are in the north, 6 are in the center, 6 are in Jerusalem and 9 are in the Negev.

The average number of workers in an industrial venture is 21. Compared to developing areas, there are 61 workers in industries there. Only 5 of the firms employ more than 61 people. Some 68% of the people employed in these ventures live in the same rural settlements, 17% live in adjacent settlements.

Sources of capital - as was already mentioned, only 30% of the capital is raised by the enrtreprenours, the rest comes from the Jewish Agency and other sources, including governmental development loans and investment grants of the government. Because most of these ventures were created in marginal moshavim, the amount of self-raised capital is only 30%

Shmuel Ben-Zvi

The Economy of Jordan 1993

The Armand Hammer Fund for Economic Cooperation in the Middle East

Tel-Aviv University, 1993

The Agricultural Area and the Water Problem

The water potential of Jordan is some 1.4 - 1.2 billion CM but in 1990 the availability of water was 730 MCM and it expected that until 2005 the availability will be only 1.1 - 0.9 billion CM. At the same time, the water need in 1990 was 790 MCM and it expected to grow to 1.1 billion in the year 2005.

Table 1 Water Balance in Jordan

Population and Demography

There are problems with demographic data in Jordan, according to the 1979 census, there were 2.15 million (a 139% increase from 1961). This represents an annual 4.8% in the population. The official Jordanian estimate speaks about 3.45 million people in 1990. That represents a 60% increase from 1979, or a 4% increase. Since the Gulf War, there was an additional increase of refugees, including some 300,000 with a Jordanian passport.

There is a special interest in the number of Palestinians in the population, i. e. those who emigrated from the West Bank after 1948. According to various estimates, 40%-70% of the population is Palestinian. According to the UNRWA report, some 1,011 are Palestinian refugees.

Gross Domestic Product

In 1991, the GDP was 2.8 billion dinar ($4.1 billion) with a population of 3.7 million, this represents 1,100 GDP/per capita. Compared to other Middle Eastern countries which have no oil, this is quite respectable.

Table 2: The Israeli and Jordanian Economy

One of the most interesting aspects in the Jordanian economy (as compared to Israel) is the fact that it lives beyond its means. Private consumption represents 92% of the GDP and together with public consumption the figure reached 117%. The result is a 40% deficit which indicates a great dependence on external sources of help

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The Structure of the Jordanian Economy

Table 3 The Relative Weight of the Sectors of the Economy

The table indicates the relative weight of the service sector (the importance of tourism). The agricultural sector is on the decline, because of the lack of land and water. Another important sector is construction, which, like in Israel is a leading sector. But construction is constant fluctuation, it grows with the general growth of the economy and declines when the economy declines.

The decline in land and water resources has an impact on the import and export of food.

Table 4 : Food Imports and Exports

As the table indicates, Jordan is a net importer of food. The dependence of Jordan on food imports has grown over the years, as the population increased , with no corresponding growth in agriculture. In addition, there has been an increase in the prices of food, which also contributes to the increase in net imports. The need to import food has contributed to its trade balance and national debt.

Agriculture in Jordan

There was an increase in the agricultural input, but its part in the overall GDP has decreased. In 1972, agriculture was 15% of the Jordanian output but in 1980, its part was only 6-8%. In terms of the number employed, the agricultural sector has been undergoing a process of modernization and has become less labor intensive. The number of employed in agriculture has decreased from 54,000 in 1972 to 38,000 in 1990. Since the loss of the West Bank and the increase in extractive industries, agriculture has ceased to be the most important sector. However, because of the huge imports of food, it is clear that agriculture is a strategic problem for Jordan.

The most important limit on the growth of agriculture is water. In 1990, Jordan used 800 MCM of water, out of which 520 MCM was devoted to agriculture. Since it is expected that domestic and industrial use will increase, as the population increases, and the water potential is very limited, there is virtually no hope for increasing agriculture. Without reaching an agreement with Syria (Yarmuk) or Israel (Jordan) , Jordan cannot expect to increase its water output.

Ariel Ariely, Complex Problems in Simple Language. The Role of Government in the Economy, Jerusalem: Domino Publishing, 1982

In 1977 the Israeli government asked Milton Freedman to consult. However, free market economy is not possible in Israel because of many factors.

p. 23 Simcha Erlich's decision to free foreign exchange and in 1979 Yigael Horowitz asked to end the subsidies. The freeing of foreign exchange was a mistake because most of the market is controlled by government. the Horowitz decision was a mistake because it lead to inflation because of indexation.

Both of the ministers were helped by the economic establishment in Israel which has operated over the years on erroneous assumptions about the economy. The accepted wisdom of economic theory do not fit the Israeli reality.

As opposed to other countries, in Israel there was no problem for the government to control the economy.. In Israel there is no difference between possession and control. For example, when land is transferred it is not sold but rented out for 49 year, with the possibility of an additional rent for 49 year. The 1965 Law of Planning and Construction is the basis of the use of land.

government's intervention in industry, the 51% possession- In Israel, there was always a consensus for government intervention in the economy. after the war there was even more of government intervention because of the expectation of the public. Because in the public sector there was no need to balance the books, it fitted the patronage model of the Israeli democracy.
p. 55
In Israel, there is almost no branch where the government is not involved. At the same time, the government is not built towards the problems of economic management, there is no "central command" which plans and executes.
p. 57 According to some estimates the involvement of the government in economic decision making is some 80%. even getting it to 60% is very hard.
p. 45: the government gets the 51% by making the enterprise "mifal meushar". and the entrepreneur becomes a government clerk.

Between 1953 - 69, there was an economic growth, because of Levy Eshkol and Pinhas Sapir. Eshkol was called by Ben-Gurion in 1952 after Eliezer Kaplan failed totally and miserably and his Director General David Horowitz. Eshkol was a very succefull manager of his kibbutz Degania Bet and was the creator of Mekorot because of his conviction about the need to plan the water development in central way. He was also the head of the Settlement Department of the Jewish agency and was a short time the Minister of agriculture.

Sapir was a friend of Eshkol and he called him to work with him in Mekorot. After the state was established Sapir worked in the Ministry of Defense and then was the head of the Development Authority. when Eshkol became the Minister of Finance he appointed Sapir to be the director general of the Finance Ministry and then when in 1963 Eshkol became the Prime Minister, Sapir became the Finance Minister.

One of the stories is about the checks that Jews were sending to their relative p. 65-6, because all the letter were opened by the miliary censorship, the checks became known. since the Finance Ministry did not want the dollars to be sold in the black market, they wanted them to be sold through the banks and get the official rate. There were some 1,5 million dollars a year.

p. 66 the famous discussion about the Ministry of Agriculture or the Ministry of Farmers Misrad Ha-Haklaut or Mistrad ha-Klaim. the discussion happened in the 1950 and created a lot of publicity. What was the real role for the Ministry of Agriculture: should it be the Posek Elion for the farmers or should it help the farmers. Eshkol and Dayan who was also the Minister of Agriculture for a number of years believed in the second way. but this way has ingored the general good but it brought a great success for the farmers P. 66

In 1955 one dollar= one lira. in this year America gave Israel nine million dollars worth of grain, and Givati who was at that time Director General of the Ministry of Agriculture wanted the equivalent of nine million lira for farmers but Sapir wanted to divide it among all needs

p.68 Eshkol and Sapir did not understand the need for professionalism and planning in industry and although they had common sense, there were some abnormal developments.

In 1953 Eshkol has created a committee to explore new ways for taxation and it was agreed that taxation should be progressive. p. 94-5 one of the problems was that the kibbutzim did not pay a realistic tax. Dr. Yochanan Bader from Herut had demanded from Eshkol who was the Finance Minister to impose realistic taxes on the kibbutzim but he resisted.

p. 102-3 One of the biggest problems in Israel is that the institutions of higher education in the social sciences do not create the appropriate doctrines for the Israeli economy.

Daniel Felsenstein, David Janner-Klausner and Yaakov Wolf

Public-Private Partnership in Economic Development

Development Study Center D.S.C.Rehovot , 1991

This research was financed by the Settlement Department of the Jewish Agency

One of the most important developments in the United States was the idea of more private-public development and the bottom-up development of economy on a more regional rather than central basis. As a result, there was a new awareness of the need for private-public parternship in the economy.

The current research will look at the experience in private-public parternship in the world and try to evaluate its potential for Israel.

Public-private partnership is a form of economic development strategy that emerged in the US and Western Europe during the 1980's. It represents a departure from central -government directed (top-to bottom) economic development and illustrates an innovative approach to co-operation in executing development projects between private, commercial interests and the public sector (usually local government). Under this system, both sectors operate as active partners in planning and executing a particular project which generally has a local or regional development objective (land development), local tourism promotion or economic infrastructure provision such as workshop or technological incubator, creation of a local loan fund etc.). Both sides share the risk involved and the partnership is often used to leverage further (private sector) funding. The public sector benefits from an inflow of funds, management skills, experience etc that the private sector supplies. The private sector benefits from the risk-sharing provided by public sector participation, involvement in public decision-making that could affect its interests, the image of social responsibility that is created and so on.

This report investigates the operation inter-sectoral partnership under three main headings. The most important aspect is the Israeli experience as compared to other countries. Finally, an empirical analysis is presented of the operation of one particular instrument of public-private partnership in peripheral areas: the operation of the revolving loan funds. Indices of the performance of the instrument are calculated and estimated (such as cost per job, the probability of creating employment and of a loan being deadweight" ect. In addition, the role of the revolving loan fund as an instrument of partnership is discussed from the standpoint of the borrowers, the public sector partner and the private sector.

The conclusion point to the limited nature of public-private partnership that have existed in Israel in the past and the structural changes in the economy that call for new forms of inter-sectoral relations. new areas for collaboration are suggested that stress the partnership as an instrument for offering business and market-oriented advice rather than capital. However, new forms of partnership based financing are also suggested and the new role for the Settlement Department are also suggested and the new role for the Settlement Department in economic development, that all this implies, is examined.

To begin with, this new form of economic partnership is not well known in Israel. There are two major ways in which the private-public partnership is working. 1) subsidies, grants and tax cuts for private firms 2) the creation of subsidiaries of public enterprises to carry out business ventures. 3) private-public ventures to carry out specific projects.

Capital and Financing the 1959 law was passed to encourage the creation of private enterprises, because of public needs the government wants to be in a position to say where these should be created. For instance, the Jewish Agency is giving out grants and loans to encourage them to create jobs and industries in specific places and regions

Physical Development: because 90% of land is government owned, in all plans of physical development, the public sector is deeply involved. all the infrastructure for development: water, utilities and telephone are also depended on the public monopolies.

One of the major problems in Israel is the absence of corporate responsibility Ahraiout Yishkit toward the locale in which the firm is located. The absence of corporate responsibility is not only in the private sector but also in the public sector firms.

In Israel, there is a high "cost per job" problems, (we have demonstrated this in the Jewish Agency rural industry job creation problem). There are also problems with the loans.

3) השטח החקלאי ובעיית המים

רק חלק קטן משטחה של ירדן נמצא באיזור אקלים נוח לחקלאות. שטחים אלו מרוכזים בעיקר בבקעת הירדן וברמת אירביד שבצפונה של רצועת ההר המזרחי. בשל היותה של ירדן מדינה מדברית בעיקרה ובשל גידול האוכלוסייה המהיר, עומדת ירדן בפני מחסור במים. על פי חישוביו של סופר (92 ב'), עומד פוטנציאל המים של ירדן על 1.2 - 1.4 מ' ממ"ק אך היצע המים בשנת 90 מסתכם ב- 730 מליון ממ"ק והוא צפוי לגדול עד לשנת 2,005 לכ- 0.9 - 1.1 מליארד ממ"ק בלבד. זאת, בעיקר כתוצאה מניצול מי הירמוך על ידי סוריה. מול זה הביקוש למים בשנת 90 עומד על 790 מ' ממ"ק והוא צפוי לגדול עד לשנת 2,005 ל- 1.1 מליארד ממ"ק. להלן פירוט הנתונים לפי סופר, 92 ב' (במליוני ממ"ק):-

TABLE 1 WATER BALANCE IN JORDAN

YEAR	SUPPLY 1990	SUPPLY 2005	DEMAND 1990	DEMAND 2005	DEFICIT 1990	DEFICIT 2005
YARMUK	130	158 - 130				
RECYCLING	30	250	AGRICULTURE	520	750	
EASTERN JORDAN BASIN	170	200 - 170	DOMESTIC	175	300	
GROUND WATER	190	190	INDUSTRY	35	70	
TOTAL	520	798 - 740	TOTAL	390	1,120	270 -322 380
WASTE WATER	210	300 - 200				210 -200 300
TOTAL	730	1,100 - 940				-60 -22 -180

4) אוכלוסיה, דמוגרפיה

כשאר מדינות המזרח התיכון ואף מעבר לכך, עברה ירדן תמורות מפליגות בגודל, בהרכב ובהתפתחות האוכלוסייה. בשנת 1917, בעת הכיבוש הבריטי וערב קביעתה של ירדן כיחידה מדינית, מנתה אוכלוסייתה כ- 142 אלף נפש (מרון 89, עמ' 3). לאחר שקבלה ירדן עצמאות מנתה אוכלוסייתה 400 - 350 אלף נפש (סופר 92 א' עמ' 195, DAY 93 עמ' 564, מרון 89, עמ' 4). כך, בתקופה זו של 30 שנה היה קצב גידול האוכלוסייה 3.3%. בשנת 1948 כבשה ירדן את יהודה ושומרון (הגדה המערבית) ששיטחה 5.6 אלף קמ"ר - 6% משטחה של ירדן אך אוכלוסייתה 800 אלף נפש פי שתיים ויותר מאוכלוסיית ירדן. האוכלוסייה כללה כ- 450 אלף נפש תושבים ותיקים ביהודה ובשומרון וכ- 350 אלף נפש פליטים מהשטחים שנכללו בגבולות ישראל. בשנים 48 - 66 חל גידול מואץ באוכלוסיית הגדה המזרחית הן כתוצאה משיעור הריבוי הטבעי והן כתוצאה מהגירה מהגדה המערבית. בשנים אלו היתה הגירה של מאות אלפי פליטים מהגדה המערבית למזרחית שחלקם התיישב בירדן וחלקם המשיך הלאה למדינות הנפט ואל מעבר לים. כך, בשנת 1961 נערך מפקד לפיו האוכלוסייה בגדה המזרחית מנתה 901 אלף תושבים - כלומר גידול של כ- 140% לעומת 1947 שמשמעותו גידול שנתי ממוצע של 6% שרק כמחציתו ניתן להסביר ע"י ריבוי טבעי.

למעט נפט שנרכש בעבר מסעודיה ובשנות ה- 80 מעירק (בחלקו כתשלום חובה של עירק לירדן), היבוא ממדינות ערב אינו גדול. ארצות המערב ויפן מהוות את המקור העיקרי ליבוא לירדן, הן במוצרי צריכה והן במוצרי השקעה. חלק מהיבוא ממדינות המערב היה ממומן בסיוע במענק או בהלוואות בתנאים נוחים. בשנים האחרונות חתמה ירדן על הסכמי סחר עם מספר ארצות בעולם השלישי (ברזיל, מיצריים ועוד) הכוללים סחר חליפין; לפיכך, גדל היבוא ממדינות אלו.

מרכיב חשוב ביבוא לירדן הינו מזון. בשל השטחים החקלאיים המצומצמים, מגבלות המיים ושיטות עיבוד מיושנות, ירדן יבואנית נטו של מזון. התלות של ירדן ביבוא מזון גדלה והולכת ובשנים האחרונות מרבית צריכת המזון בירדן מקורה ביבוא. עודף היבוא של מזון גדל בשיעורים תלולים מכ- 63 מ' $ ב- 72 ועד לכ-300 מ' $ ב- 1980 וכ- 500 מ' $ בשנים 90-91. הגידול בעודף היבוא נובע הן מגידול נפח היבוא במקביל לגידול האוכלוסיה והן מעליית מחירי המזון בשוק העולמי.

TABLE 4 FOOD IMPORTS AND EXPORTS.

	72	75	80	85	90	91
EXPORT	14.0	33.5	81.5	93.3	90.0	126.3
IMPORT	77.3	154.8	377.7	387.2	608.3	613.3
EXPORT - IMPORT DIFFERENCE	63.3	121.3	296.2	293.9	518.3	487.0

מקור: לשנים 72 - 85 KANOVSKY, 89 עמ' 98; לשנים 90 - 91 EIU 92 א' עמ' 31.

<u>המאזן המסחרי</u>

מסקירת היבוא והיצוא ברור לקורא שירדן נמצאת בגרעון כרוני ומבני בחשבון הסחורות: לירדנים בסיס תעשייתי קטן יחסית, משאבי טבע דלים וכתוצאה מהתנאים הגאוגרפיים ודמוגרפיים ירדן הינה יבואנית נטו של מזון ושל אנרגיה.

מבחינת מבנה התוצר לפי סקטורים בולטות כמה תופעות: בראש ובראשונה סקטור שירותים גדול המבטא בין היתר את חשיבותם של ענפי התיירות, המסחר והתובלה בירדן. מעבר לכך בולטים ענפי החקלאות, התעשייה והכרייה כענפים מובילים במשק הירדני בנוסף לענפי התיירות והתובלה. עם השנים קטן משקלה של החקלאות בשל מגבלות השטח המתאים לחקלאות והמחסור במים ובמקביל גדל חלקה של התעשייה ושל הכרייה (בעיקר פוספטים ואשלג). ענף חשוב נוסף במשק הירדני הינו ענף הבנייה שכמו במשק הישראלי הינו ענף מובילי שמתפתח מהר בשעה שהמשק צומח וענף שפעילותו יורדת מאוד בשעת מיתון. בהמשך הסקירה נדון בפעילות ענפים אלו במשק הירדני. בשלב זה נציג את משקלם בתוצר של ירדן.

טבלה 7

משקל הסקטורים בתוצר של ירדן

(משקל מתוך התמ"ג במחירי גורמי ייצור, באחוזים)

	1972	1975	1980	1985	1990
חקלאות	14.6	8.6	7.8	5.3	7.5
כריה וחציבה	1.8	5.4	4.5	3.8	8.0
תעשייה	8.3	13.1	14.2	11.6	15.0
חשמל ומיים	1.4	1.0	1.9	2.4	2.7
בניה	5.0	6.3	10.9	8.7	6.1
שרותים ממשלתיים	25.1	21.5	19.1	19.0	19.3
מסחר, מלונאות ומסעדות					13.9
תובלה ותקשורת	43.8	44.1		41.6	17.5
פיננסים ושירותים עסקיים					9.2 49.2
שרותים אחרים והתאמות					41.4
				13.8	
				16.4	16.6
				1.5	1.7
זה"כ	100	100	100	100	100

קור הנתונים: עד 85 KANOVSKY, 89 עמ' 81; שנת 90 מ- EIU, 1992 א'. לפירוט נתונים בערכים מוחלטים ולפי שנים ראה בנספח ב'.

להלן ריכוז הנתונים העיקריים של המשק הירדני ב- 91 מול המשק הישראלי:

טבלה 3

המשק הירדני לעומת המשק הישראלי בשנת 91

	ירדן		ישראל		
	דינאר	דולר (1)	ש"ח	דולר (1)	יחס
					פי כמה גדולה ישראל מירדן
תמ"ג	2,805.5	4119.6	134,756	58,210	14.1
תמ"ג לנפש (ביחידות)	758.0	1,113.0	27,223	11,759	10.6
צריכה פרטית	2,580.0	3,788.5	82,423	35,604	9.4
צריכה פרטית לנפש (ביחידות)	697.0	1,024.0	16,651	7,193	7.0
צריכה ציבורית	713.0	1,047.0	40,463	17,479	16.7
יצוא	1,190.3	1,747.8	41,079	17,745	10.2
יבוא	2273.5	3,338.4	62,106	26,828	8.0
השקעות	595.7	874.7	32,897	14,210	16.2
אוכלוסיה (במיליונים)	3.7		4.95		1.34

הנתונים במליונים, אלא אם מציין אחרת.

(1) התרגום ל- $ בירדן לפי שע"ח 0.681 דינאר ל- $ ובישראל 2.315 ש"ח ל- $.

מקור הנתונים: ירדן - INTERNATIONAL FINANCIAL STATISTICS, IMF:
אוכלוסייה בירדן מתוך EIU, 92 עמ' 3. ישראל - פרסומי הלמ"ס.

MEKOROTH WATER CO. LTD. קורות חברת מים בע"מ

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DATE: 14.2.94 תאריך:

RECIPIENT'S TELEFAX .NO 215-747-6211 מס' הפקסמילה של הנמען

TO: Prof. OFIRA SELIKAR עבור:

FROM: [redacted] (FAX: 972-3-208-598) מאת:

COMMENTS: Please find attached my C.V. הערות:
as promised.
The needed data will follow.

[redacted]

אם לא נתקבלו הדפים, נא הודיענו מיד
טל 03-208706

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HEAD OFFICE: 9, LINCOLN ST. TEL-AVIV, P.O.B. 20128, 61201, ISRAEL.
PHONE: 03-208555, CABLES: MEKOROTHCO. TELEX: 33540 WADEV IL.
FAX. 03-208833

ראשי: רחוב לינקולן 9, תל-אביב 61201, ת.ד. 20128 טל. 03-208555
טלקס: 33540 מקורותקו, מברקים: מקורותקו, פקס 03-208833

CURRICULUM VITAE

1. Personal Data

Name:	Shmuel Kantor
Born:	1923, Bialistock, Poland
Nationality:	Israeli
Private Address:	14 Eduard Berenstein St., Tel-Aviv 63408 ISRAEL
Office Address:	Mekoroth Water Co. Ltd., 9 Lincoln St., Tel-Aviv 61201 Israel, Telex: 33540 Wadev IL, Fax: (03) 208833, (03) 208598

2. Education

1945 - 1949	Graduate Diploma in Civil Engineering (Dip.-Ing.), Technion, Israel Institute of Technology, Haifa.

3. Postgraduate Training

1949 - present	Professional courses and informal studies.

4. Professional Experience and Positions

1989 - present	Senior Advisor - Mekoroth Water Co. Ltd. Coordinator, special duties and research - Water Commissioner's Office. Member, Israeli Delegation to the Working Group on Water in the Multilateral Peace Negotiations.
1961 - 1989	Mekoroth Water Co. Ltd., as Chief Engineer and Deputy Director General. Responsible for Engineering and Water Supply, including research, planning and design activities. Desalination, water quality, water and sewage purification, construction, budget control, economic evaluation of projects, etc.
1952 - 1961	Tahal - Water Planning for Israel. Position - Head of Planning Dept., Head of Planning Division. Responsible for planning of regional and national projects of water supply, rural development, water and sewage purification, oil pipeline and storage, flood runoff interception, hydrology, economical evaluation, etc.
1947 - 1952	Deputy to Chief Engineer - Mekoroth Water Co. Ltd.

5. Special Assignments

1987 - present	Representative of the Israeli Water Commissioner on matters of scientific and technological matters, with Israeli and international academic institutions.
1987 - present	Special Advisor to the Israeli Water Commissioner on matters of water planning, coordination and research activities.
1985 - present	Technical representative of Israel with water supply institutes in South Africa.
1985 - present	Head of Israeli team within the framework of mutual and development agreements with the Bureau of Reclamation, U.S.A.
1981 - 1984	Technical and professional lectures, Israel Bonds Drive, U.S.A.
1980 - present	Lecturer, Tel-Aviv University, Israel.
1977 - present	Lecturer, Technion, Israel Institute of Technology, Haifa, Israel.
1973	Consultant to the International Bank for Reconstruction and Development (World Bank) on rural water supply and sanitation (special assignment).
1971 - present	Member of the "Paper Committee" of the International Commission on Irrigation and Drainage (I.C.I.D.).
1971 - present	Lectures at most of the I.C.I.D. Congresses.
1971	Advisor to the governments of El-Salvador and Nicaragua on water projects planning.
1970 - present	Member of various government advisory committees in Israel on matters of water supply, planning, desalination, rain enhancement, limnological research, etc.
1970	Lectures on Water Supply, as guest lecturer of the University of Karlsruhe, West Germany.
1961	Head of advisory mission to the government of Nepal on agricultural and rural development.

Dear Professor Thomas Naff

Thank you for your kind letter.

I am very glad I could help

Dr. Ofira Salikter.

I shall be glad to offer my assistance any time

My regards to Dr Salikter.

My adress is Yokeam 20600

Phone and fax no

972-4-893587

Yours sincerely

[redacted]