One Law for All

Water Laws

In some countries private ownership of water resources (such as wells, springs, or streams) is fully recognized by law or custom, and the owner of a water resource may freely use the water as he or she likes, including sale of water to anyone who may be interested. In other countries water resources cannot be privately owned and are considered state or public property, the use of which requires a permit. A permit to use water also may dictate the type of use: agricultural, home, etc. Generally speaking, there seems to be a direct correlation between water shortages and restrictions imposed on private ownership. The correlation may be based on the predication that governmental authorities take a comprehensive view of overall water needs, thereby contributing to the preservation of water resources.

Where there is an acute shortage of available water resources, as is the case in our region, governmental involvement and close control become a necessity. The water laws in our region represent this tendency as well. For example, in order to connect to the water system for various uses (home, agricultural, industrial) the users need to obtain a permit from the water authorities. The permit stipulates the nature of water use and its preservation, alongside other conditions that prevent misuse of water resources, water facilities, and any property in the framework of the water system. In the agricultural sector, the water authorities issue permits or licenses for extracting specific quantities of water based on considerations like the existing state of affairs, the nature of the aquifer, and the type of vegetation. The principal significance of a permit of this type is that the water resources are not the property of the user, and that the water is given the user only for a specific use as defined in the permit. Therefore any change in the designated use of the water on the part of the user constitutes a violation of the law.

Differential (graded) water tariffs are considered one mechanism for retrieving the total or part of the cost of water extraction and supply. In addition, it serves as a means to prompt consumers to use water rationally. There also are similar laws and instructions that regulate the uses of water in the different sectors. The aim of these laws is to provide guidelines for the ideal use of water in the respective sectors.

In the majority of countries around the world, our region included, water laws are in effect. These laws enable the authorities to enforce responsibility and ownership over water resources. What do you think of such legislation and laws? Do you think that drilling a well on privately owned land would make the well the property of the landlord or public property?
Everyone Deserves It

Water Allocation

You probably encountered such a newspaper headline at least once: “Due to drought, water quotas for farmers have been cut by 50%”... And what will happen next year? If we are blessed with a good rainy season next year, will the cutback imposed this year be cancelled? Will farmers be able to use all the water they want?

“Who needs water quotas?” What are water quotas and how are they determined? Water authorities plan water distribution policy according to the water quantity in reservoirs and aquifers. Water allocation for various sectors: domestic/municipal, agricultural, industrial, or recreational is determined by special consideration of each sector’s needs.

Allocating Water for Agriculture

Water is the most important production medium for farmers. This economic sector cannot exist without water and indeed the largest quantities of water are consumed in agriculture (see the chapter on Water Uses, p. 50). In order to control the quantities of water consumed by farmers, the authorities allocate limited quantities.

In the past, water allocation was determined by the land area and the type of crops grown by the farmer. Presently, the allocations are reviewed each year and a new allocation based on the rate of precipitation and the basic allocation granted the farmer in former years. The quality of water used by farmers is yet another criterion for allocation. In many cases, a portion of the water consumed is of good quality, whereas other portions are of treated water.
Water authorities encourage farmers to use treated sewage water in accordance with prescribed conditions.

As already noted, the water authorities cannot dictate to the farmers what crops to grow, but fixing water prices essentially determines the economic feasibility of a particular crop and the farmer must seriously consider in advance whether it is worthwhile growing certain crops.

Sometimes a small water allocation makes certain crops too expensive to grow. That is why more and more agricultural regions are reinventing themselves as construction sites, industrial sites, and tourism sites. In such cases the water authorities readjust the water allocation, the quantity, price, and quality of the water according to the new needs.

A farmer has a 300-dunam banana plantation. Due to drought, allocation of water is cut by 50%. Banana crops require a lot of water; therefore the future of the plantation is in doubt. The farmer has a number of options:

A. Uproot the plantation and forgo raising another crop.
B. Uproot the plantation and raise a crop that requires less water.
C. Uproot the plantation and raise a type of crop that can be cultivated with treated water.
D. Continue growing bananas with treated water for irrigation.
E. Continue growing bananas but invest in a more efficient irrigation system.
F. Continue growing bananas, but irrigate the plantation with smaller quantities of water, using just enough to keep it alive and wait for a rainier year and higher water allocation.

Discuss among you the pros and cons of each of the options. In your opinion, what should the farmer do?
Allocating Water for Industry

One of the ways of encouraging (actually compelling) industrial enterprises to save water is by determining a standard of water consumption (norm) for the manufacture of each product. If, for example, the water authorities determine (according to research, of course) that for every kilogram of paper produced, $x$ liters of water is required, the paper factory will then be given an allocation of water according to quantity of paper it produces (number of kilograms times $x$ liters of water) and not more!

Based on this form of allocation, factories that are wasteful will be forced to improve their methods of production, such as by using treated water and putting an end to leaks in their network. For example, hi-tech factories that produce printed circuits for computers use large quantities of water to rinse these boards. This particular product must be completely clean and smooth and must be rinsed many times. Factories that use enormous quantities of water find it worthwhile to save and recycle the water. After the final rinsing of the boards, the rinse water is very clean and can be used again in the first rinsing of the next set of boards. Many industries use water to cool machinery. This is especially true for power stations. In recent years power stations have been established on shorelines permitting access to seawater for their cooling processes. Sometimes, the stations are located close to water treatment plants whose water also can be used for cooling.

These examples demonstrate the importance of wise management of water for industry in a manner that preserves as much as possible the sources of fresh water.

Water authorities supervise and monitor the economical use of water in each and every factory, and any increase in water allocation is examined in view of saving water in the production process.

I'm very sorry, due to water quota cutbacks, the bottles will be filled only up to here.
Allocating Water for Domestic and Municipal Consumption

A local authority - municipality, regional council and such — may purchase or produce water in quantities required for the residents within its limits and sell the water to its citizens. The quantities are calculated according to certain criteria that include the number of residents and the nature of services rendered to the community. In some places the water is supplied to residents only at certain times. In other areas, the local authority buys or produces water in the quantity required for the residents within its limits.

Water authorities try to assist municipalities and local authorities improve efficiency and support in maintaining the water systems by helping to replace or fix old pipe systems, by installing automatic measuring devices, by guidance on ways of monitoring water theft, and by instructions on more economical use of water in public areas.

Aha! I found the leak!!!
Our Top Priority

It would be natural to assume that since you have started your "journey" in this study unit you have already encountered a number of times the topic of the "water problem of the region". You probably have read about it newspapers, watched it on television, heard it on the radio, and even discussed it with your family. Water issues, like issues that relate to health, employment, and education, are more than just informal talk. They are, rather, issues that require action to confront the problem.

It is even possible that for a moment it crossed your mind, "Enough! How much more can we talk about it?" So yes, we can talk a little less, but we must act! To solve this problem we must change our behavior!
“Responsibility”, “saving”, “awareness”, these are not mere words, but rather different facets of behavior. The purpose of this study unit is to increase your knowledge of water-related issues and to convince you, and recruit you, to convince others to adopt the concept of “water awareness” and proper “water behavior” and to actively participate in water conservation programs. These programs begin with actually saving water, closing taps, and fixing taps until such actions become an obvious necessity in themselves. Is it not obvious that we need to wear warm clothes on a cold day, or that we need to look both ways before crossing a dangerous street? Thus, it is obvious that the water issue is a serious one and requires all of us to work collaboratively to take care of water.
Water without boundaries

All our water uses ultimately depend on, and are provided by, the same limited resources. All water sources in the region - the Jordan and Yarmouk rivers, the Mountain Aquifer, etc. - are connected to each other directly or indirectly. The rains that feed these sources do not distinguish between borders or flags, nor do the drought cycles that affect us all.

Because water flows from one place to another, it connects us with our neighbors. Water awareness must be adopted by all people, regardless of their geographical location. Water awareness is a must in any public situation, whether at the municipal, communal, or national levels. Today it is clear that whoever wastes water in their home, directly or indirectly affects their neighbor’s water as well. It is obvious that any municipality over-pumping from one well may affect adjacent wells. It is obvious to any state that neglecting the treatment of its water sources causes harm to its citizens, as well as to the citizens of its neighbors.

In this spirit of mutual understanding and responsibility, we can begin a joint regional effort to protect and conserve our diminishing water resources. This new spirit, although born from a common problem, is bringing the first drops of hope.

1. Words that Build
Peace treaties between states are written in words, but should be translated into language of action, into concrete and steel.

The new dam at Addasiya is designed to capture floodwater from the Yarmouk River and to divert it for use by the people in the region.

2. Learning Together
A multinational group that has been working since 1995 on regional water data issues demonstrates another example of regional cooperation. The group already has done much good work in the region, which is described on their web site located at http://www.exact-me.org
3. “In a Small Village”

An old school building in the Sachnin village has been renovated with straw and mud. To insulate the building from the heat and the cold, the structure was covered with plaster made of local materials. A ventilation system was installed inside the building, “biological” toilets were constructed that do not consume water, and a water heating system established that utilizes solar energy.

This building is the new educational center founded in the Sachnin village in the Galilee. The project’s aim was to increase the local residents’ involvement in various environmental topics and issues. The center deals with topics such as water conservation, sewage treatment, utilizing treated sewage water in agriculture, prevention of air pollution and noise pollution, recycling material for construction, etc.

Many agriculturists, teachers, students and researchers from the Galilee and surrounding areas, as well as from various countries in the region, visit and study at the center.

Adjoining the Center stands a water treatment facility which was simple to erect and is inexpensive to operate, suitable for the rural sector that has available land and plenty of solar energy.

A similar center is planned for construction in the future next to the village of Bani Zayad in the Ramallah region. These two projects may herald the dawn of a new way of thinking about water conservation and the environmental protection.

4. Purifying the Water and the Atmosphere

The new water purification plant, to be constructed between Kfar Saba and Kalkiya, will combine wastewater with more wastewater. The installation will treat and recycle sewage water from both cities. It is reasonable to assume that the treatment system will not differentiate between the sources of incoming wastewater destined to be used by farmers in the area.

---

The Smell of the First Rain

These “first drops” of cooperation refresh and clear the air (and the atmosphere…) while preparing the ground for a collective confrontation with the region’s water shortage. This is a most difficult confrontation, considering the worrisome forecast for the water situation in the future: by the year 2040, there will be a 2.2 billion cubic meter water deficit. This amount of water is approximately the total amount of water currently pumped from all the water resources in the region. It means that by 2040 our consumption of water will double itself and in the absence of new water sources it is clear that we will not be able to meet our future needs.
Water of Peace

In order to solve the water problem we need to come up with many ideas. Some may seem imaginary, some difficult or too costly to implement. However, the imaginary ideas of today form the basis for tomorrow's technological development. Every solution, beginning, for example, with a small flow regulator on the faucet, up to a large canal connecting the seas, every such idea becomes an asset for all, and every liter of water added to the region is... one more liter to share. Here are several ideas that may help to solve the water problem.

Peace pipe: water imported from Turkey by means of a pipeline that will pass through all nations in the region all the way to Kuwait and Saudi Arabia.

Giant tankers, huge plastic containers, etc.: conveying water by sea from Turkey, and perhaps even icebergs from... Antarctica.

Desalination plants: turning salty seawater into fresh water

The Seas canal: using the hydroelectric energy produced for desalinization.

And maybe over a glass of water, alone or with friends — you can think of another solution?

(After closing all the faucets...)