Chapter 5

CURRENT WATER POLICY IN SYRIA -- POLITICS, REGULATION, IMPLEMENTATION

Syria, before the advent of the Baath, was more an aggregation than a country. Under 400 years of Ottoman rule, and for many centuries before that under assorted other empires, the realm of government was directed to the cities. It was the traditional, almost feudal, notables of the cities -- the great families who comprised the landed aristocracy, intelligentsia, and commercial magnates -- who mediated the rule of law to the unorganized, often illiterate peasantry and controlled access to the corridors of power and the benefits accruing from power. Nor did the cities themselves act as one unit. Although some of the notable families had branches in more than one city (e.g. the Azzams of Hama and Damascus), the relations between the nine major cities of Syria were characterized by fierce rivalries. The French, during their brief tenure as Mandatory, built on a situation fragmented almost to the point of disintegration through a deliberate policy of "divide and rule".

Syria's first two decades of independent national existence were filled with instability. Coup followed coup as the traditional families -- working sometimes through political ideologies, sometimes through sectarian allegiances, sometimes through regionalisms, and always through personal ties -- sought in turn to establish hegemony over the fledgling state. It was despair with this chaos that led Syria into its ill-fated union with Egypt in 1958. And it was this chaos that formed the crucible for the Baath determination, when it finally seized power in 1963, to overturn the traditional leadership and forge a new mass power base and new political reality for Syria.

The core of the Baath strategy involved the mobilization of the disenfranchised peasants -- small landowners who worked their own land, tenants, sharecroppers, agricultural laborers. The Party sought, through its cellular, pyramidal structures and ultimately through its mass organizations, to give the people of the countryside their own avenues of access to government, thus breaking their dependence on the urban elites and depriving these old notables of their monopoly on the provision of needed services. This choice of base was not purely ideological, for the first recruits to the Baath Party had been among the rural youth who gained their educations through the government high school system. The founders of the Baath were teachers by profession, and their followers in 1947 and after were young men like Hafez al-Assad, poor boys from villages who came to town to high school, and then passed on to the military academy or normal school, those being the only available sources of higher education open to them without cost.

This rural base has served to define the policies of every Baath regime in Syria. Assad is more pragmatic and less ideological than his predecessors; indeed, his 1970 "Corrective Movement" was predicated on realistic development goals in place of doctrinal purity. But the rural nature of Baath party cadres is a salient reality. It is a definitive life experience and mindset for the party leaders. It is a supporting clientele whose needs must be met.

Hence, agricultural development and improvement in the quality of rural life are key policy goals for Syria's Baath government. Neither of these is possible without water.

5.1 Current Goals

The strongly rural orientation of Syria present rulers was reaffirmed at the most recent Baath Regional Congress in 1985. Faced with a sluggish economy (to use the mildest adjective consistent with truth) and foreign policy constraints that required continued high military spending, the delegates debated ways to revive economic growth. They recommended continued emphasis on strategies to increase agricultural productivity with a view both to food security and to providing low-cost inputs for light industry[4171].

It should be noted that debate in the Baath Regional Congress tends to be free-wheeling and very candid. It is one of the forums (the People's Assembly is another) in which Syria's leadership solicits the opinions of cadres and regional representatives regarding policy, providing a route whereby ordinary citizens can express their concerns and grievances. Although the leadership makes the decision in the end, it tends to listen carefully to the opinions offered. The *quid pro quo* is that all parties agree in advance to support the final decision, like it or not. Some observers[4239] have called this process "participatory consensus"; a doctrinaire Marxist (which the Baathis are *not*) would call it "democratic centralism". What is important is that the debates in the Congresses and Assembly, while not the actual decision points on policy, do provide a useful portent of what the policy will be and why.

In the present instance, the 1985 Regional Congress endorsed more investment in the Tabqa Dam project and in schemes to improve farm technologies and extend rural services -- hygiene, electricity, credit. The delegates saw this as economically rational and politically effective. The controversial mixed public-private joint ventures, which were approved after a full week of strenuous debate as a way to compensate for the decline in government investment, seem to function well in agriculture. Moreover, the delegates were cognizant of the demonstrated loyalty

of the peasant population. Pleased with the steady growth of state services for the countryside, the peasants gave the state the support it needed to prevail over the revolt of the Muslim Brotherhood in Hama in 1982[4171]. To satisfy this constituency, the Baath party sets rural concerns high on its list of priorities.

These priorities are reflected at the government level. Water and agriculture have by far the largest quotas in the 1988 investment budget, and agriculture was re-emphasized in the Sixth Five Year Plan (1986-90), with electric power generation as another high priority. Specific goals of the plan, as reported to UNDP in 1986 (UNDP/DP/CP/SYR4, 10-23-86), included the following:

1) Investment in agriculture and the food processing industries to ensure food security;
2) Consolidation of the industrial sector;
3) Development of oil and gas resources to meet internal energy demand;
4) Expansion of electrical generation capacities.

The first and fourth goals above are directly related to improving the quality of life and livelihood of rural Syrians. They are also both directly dependent on the proper development of water resources. These concerns are fully reflected in the projects Syria is undertaking at present (see Chapter 3). They are also reflected in the Syrian water priorities reported by UNESCWA in 1986:

-- Surface water development and conservation by constructing weirs and dams for domestic and agricultural purposes;
-- Domestic water supply projects to service 100% of urban and 67% of rural populace;
-- Groundwater studies and exploration;
-- Strengthening manpower.

These goals have been confirmed by the present cabinet. In his state of the nation speech to the People's Assembly shortly after taking office (speech given on 12-28-87), Prime Minister Mahmud al-Zubi highlighted agriculture, irrigation, electric power, drinking water, and the reduction of water waste. He pledged the speedy completion of planned land reclamation projects, but placed equal emphasis on increased productivity through modernization, intensification, and training. He pointed to the efficient use of water resources and the elimination of loss as essential to the realization of goals for agricultural development and hydroelectric power generation. The fact that Zubi is an agronomist with experience in Euphrates projects is in itself an indicator of probable government priorities. Zubi also stressed the role of joint sector investment, a policy for which Economy and Trade Minister Muhammad Imady has been an important public advocate[4372].

5.2 Regulatory Principles

As with many Middle Eastern states, the fundamental principles on which Syrian water practice is based derive from the legal precepts of Islam. The prescriptions of the Sharia law are few in number but general in application, and provide a flexible framework for the development of modern water systems. Among these principles are the following[3774]:

- o Water is the common property of all mankind. The fact that water passes over or under private property does not confer ownership rights on the landlord; he may only withdraw water for his own needs like anyone else, and may not deny access to others.

- o Water for survival must never be denied; first priority in water use is to satisfy the thirst of man and his domesticated animals.

- o Reasonable agricultural uses, i.e., sufficient for cultivation, are to be allocated on a first come, first served basis.

- o Prior uses in time (first user) and geography (upper riparian) take precedence over later or downstream uses.

- o Hoarding and speculation are discouraged. Each person should take from the common stock only what he needs; it is permissible to make a living by carrying water to others but one should not profiteer from God's gifts.

- o Artificial channels, above or below ground, belong to the builders. Others, including landowners, may withdraw from them only for domestic needs, and may not impair access for repair and maintenance.

- o Primary water supplies must be protected against contamination.

These commonsense prescriptions differ little from the notions and practices of other peoples. The inclusion of domesticated animals as domestic users is not universal. Also, some countries -- and some U.S. states -- treat groundwater as private property, the rights to which may or may not be attached to the sale or lease of the land above it. Purchasers of mountain retreats in California have sometimes learned these facts to their sorrow. In general, however, the Islamic principles could form the basis for much of international practice.

The Islamic principles do, moreover, predetermine certain underlying attitudes on the part of the populace. Since water is seen as the gift of God to all mankind, the extension of this prin-

ciple to say that water belongs to the state and not to any individual meets little resistance. On the other hand, the state's imposition of fees for delivering water meets with incredulity. Why should people pay anyone, even the state, for God's gifts? The result seems to be a low level of compliance with fee collection and, as a natural corrollary, widespread approval of illegal extractions from government canals[4364]. Even in cities, where the almost universal presence of "artificial channels" could be held to justify fees, the imposition of anything beyond what could be seen as maintenance charges meets with low compliance[3101].

The situation today, with water ownership in the hands of the people as represented by the state, differs dramatically from the situation that obtained during the period before and after independence. Patterns of communal ownership had been disrupted already in the waning years of the Ottoman Empire. The land registration features of *Tanzimat* offered signal opportunities to the urban merchant classes to convert their client relationships in the countryside into legal ownership, thereby reducing the peasantry to tenant farmers. The merchants, who had long held the peasants in debt bondage, were able -- through their literacy, proximity to officials, and sometimes outright graft -- to register themselves as owners of lands that had previously been classed as *miri*, that is, owned by the crown but with usufruct guaranteed in perpetuity, contingent on continued utilization, to the community that worked it. The peasants, always deeply in debt, lacked the power and often the knowledge to challenge this change in their status.

This change in the nature of land tenure, reversed in Syria only with the Agrarian Reform of the 1960s, was accompanied by a change in the pattern of water rights. The irrigation of cotton spawned a generation of "cotton sheikhs" in the 1950s. The tribal leaders of the Jezireh, who had registered themselves as titular owners of their tribal lands, realized after World War II the profits that could be made from the cultivation and export of cotton. They bought the pumps, the tractors, and the trucks, established the relationships with traders in Aleppo and other cities, and then settled their previously semi-nomadic fellow tribesmen as sharecroppers on irrigated plots to grow cotton. The profits in those early years were tremendous, and upwards of 60% of those profits went to the sheikhs in return for the equipment, seed, and intermediary services they provided[4362].

Under the situation that developed in the fifties, water belonged not to the people, as per Islamic law, but to the pump owner. The above description was drawn from the Euphrates basin, where the change was perhaps most dramatic. But it applied with variations all over Syria -- and southeastern Turkey as well. In the Ghab, for example, most of the land and its attendant water rights were in the hands of a few mercantile families from Hama and Irbid. Metral[4368] reports for the Ghab region that the project significantly changed these pre-existing patterns (as of the 1950s) of access to water. After the project, the state controlled all of

the water and most of the land but considered that it belonged to the public domain. Thus, the Baathist state seemed to be "returning to the tradition of Islamic Law under a slightly more refined formula".

5.3 Agricultural Policy under the Syrian Baath

Because irrigation accounts for almost 90% of Syria's water use, Syria's water policies and agricultural policies are inextricably entwined. The need for food security, a common Third World goal, only reinforces the rural base and orientation of Syria's leaders. The water and electricity projects that are so emphasized in Syria's current investment strategies are necessary ingredients for providing better services for the rural populace. Indeed, the stipulated priorities of Syria's agricultural policy are water projects, agrarian reform, and education and training of the peasant population[4255].

Despite massive investments of men and resources, and despite a thoroughgoing agrarian reform program, the performance of Syrian agriculture has been mixed. Acreages increased dramatically in the fifties and then declined into the sixties. Agricultural and food production indices showed steady gains during the 1970s, but unfortunately, even the bumper harvest of 1980 barely kept pace with population growth. During much of the recent period Syria has been a net importer of grains[3317].

In part, Syria's shortfall on agricultural goals is a direct result of its rapid population growth. Syria, *like all its neighbors without exception*, will eventually have to learn the ecological limits of its resource base which will not sustain unlimited demographic expansion.

In part, Syria's shortfalls are the result of a natural physical process whereby farmers learn by experience which of their lands are suitable for cultivation and irrigation. The initial fertility of some of Syria's rangelands, first ploughed in the 1950s, rapidly diminished. Like the farmers of the American plains, Syria's agriculturalists are now returning to grass and fodder some of the Jezireh lands that had threatened -- what with salination, erosion, and accretion of gypsum -- to become a dust bowl. Intensification of cultivation on the more suitable lands is now the priority for Syria, rather than further horizontal expansion of ploughed acreages.

And in part, Syria's shortfalls may be the result of the very agrarian reform measures that were such a necessary ingredient of its social program. Although reform, that is, expropriation and most redistribution, was essentially complete by 1970, it has taken many years to replace the supply and marketing mechanisms that were

disrupted by the reforms. Lack of training, lack of manpower for harvests, lack of needed inputs such as fertilizers, lack of credit, and lack of access to markets are common complaints among Syria's farmers. All of these services had, under the old system, been supplied by the farmers' merchant patrons in return for their subservience, clientage, and a major share of the crops. It requires time and intensive training programs to provide for these needs through mechanisms such as extension services and cooperatives that the Syrian leaders will deem socially progressive.

5.4 Land Reform

Ulrich Planck[4326] has traced the history of the implementation of land reform in Syria. Although there were efforts as early as 1950 to regulate the private use of state land, especially on the part of large landowners, and to benefit landless and small-holding peasants, effective land reform came only during and after the transitory union with Egypt. The Agrarian Reform Law #161 of 1958 essentially applied to Syria, with little adaptation, the provisions of Egypt's land reform measures. The break up of the United Arab Republic in 1961 saw the immediate repeal of Law 161. A new law was passed in 1962, but was annulled a month later when Law 161 was reinstated. Finally in 1963, all previous legislation was repealed and a new Decree #88 was promulgated with provisions adapted to Syrian conditions.

The political purpose of land reform in Syria was a thoroughgoing social change, to sap the power of feudal landlords by empowering and mobilizing a new class of small landowning peasants who would till their own land. The major changes in the laws involved the amount of land that would constitute the maximum land holding, and the size of the plots to be allotted to the new small holders. The 1958 law simply applied the upper limits that Egypt had used: 80 ha of irrigated or orchard land, 300 ha of rainfed land. The short-lived 1962 law raised these limits drastically while imposing a graduated system of limits depending on the region of the country and quality of the land. The final version of the 1963 Law established lower ranges, also graduated by region and quality:

15-55 ha of irrigated land
35-40 ha of orchard land
80-300 ha of rainfed land

Land holdings beyond these maxima were expropriated. By 1969, some 1.4 million hectares had been expropriated from more than 4,000 big landlords. Excluding marginal soils, a million hectares were deemed suitable for distribution. Of this, 43% was distributed to 52,500 peasant families and the remainder was reserved for state farms or large tenant farms. In addition,

49,700 peasant families received some 432,000 hectares from the state domain. Except in the development areas of the Euphrates basin, where projects are still ongoing and peasants are still waiting to be resettled, the process of land reform was considered complete by 1969[4326)(2425)(4569)].

Criteria for receipt of distributed land -- in plots of approximately 2.5 ha of irrigated land plus varying amounts of dry land -- were explicitly framed to prevent absentee landlordism: recipients were farmers, most were previously landless, married, aged 35-45, and residing on and working the land themselves. [Criteria in the Euphrates were only slightly different: landless, 35-50 years, literate, married with children, experienced in growing cotton[4569)].] Although the state retains eminent domain over land and water, the terms of exploitation (*infita'*) for the beneficiaries more nearly resemble that of ownership than tenancy. The farmer is required to join a cooperative to which he pays a nominal annual fee (a tax of SL 10 per hectare), but he does not share his crop. His right of usufruct is permanent, but it is personal to the farmer and his family and it is indivisible (he may cede his land to one of his children, but he may not subdivide it or sell or rent to an outsider)[4255)].

Although the agricultural supply and marketing system was not wholly reorganized, in large part due to lack of qualified personnel, the impact of land reform was still significant. Planck[4326)] reports that surveys show land reform villages tend to have larger irrigation areas, more diverse crops, more intense cultivation, and a higher level of animal husbandry along with cultivation. But these economic benefits are less significant than the social changes. As a result of the land reform, Planck says the urban feudal landlords have lost much of their power over the peasants, both land ownership and agricultural income is more evenly distributed, and fragmentation and tenant farming have diminished. He concludes that the peasants display a remarkable change in mentality.

Prior to land reform, two thirds of Syria's peasants had been landless[0094)], and almost half of Syria's farm ownership had been in estates of more than 100 hectares (250 acres). After land reform, the extent of the large estates had been reduced from half to a fifth, and the amount of land in moderately sized holdings had increased dramatically. Table 5.1 demonstrates the change:

Table 5.1

Syria: Land Holdings, 1952 and 1970
(in percent of area)

Size of holding	1952	1970
< 2 ha	1%	3%
2-10 ha	12%	20%
10-50 ha	28%	47%
50-100 ha	10%	12%
> 100 ha	49%	18%

Source: Manners[3317].

The growth of substitute service structures has been far slower than the redistribution of land. Nonetheless, the cooperatives represent the real growth sector in Syrian agriculture. Private ownership, still dominant, is dropping steadily, and the situation with state collective farming can only be described as dismal. But membership in cooperatives more than doubled between 1975 and 1982 (see Table 5.2).

Table 5.2

Cultivated Area by Type of Farm
(000 ha)

	1975	1980	1982
Private	3,041	2,866	2,650
Cooperative	593	1,001	1,314
State	66	26	23
	3,700	3,893	3,987

Source: Manners[3317], p. 274; al-Ashram[2059].

Obviously, the Syrian peasant displays no fixed resistance to membership in a cooperative although the state farms, which reduce the peasant to employee status, are not popular. Slowness in organizing cooperatives is due to the lack of adequately trained personnel. Training of additional cadres of agricultural engineers is one of the stated objectives of Syrian agricultural policy.

5.5 Regulation of Water Use to the Present Decade

Until the mid-1980s, the regulation of water in Syria was a crazy-quilt of competing agencies and authorities. The administration of water resources was the responsibility of several agencies, among which were the following:

The Directorate of Irrigation and Water Resources. This directorate belonged to the Ministry of Public Works and Water Resources and was mainly concerned with the preparation of studies and the supervision of the execution of certain dams and medium-sized irrigation canals. In addition, it was entrusted with the study of surface and ground water resources.

The Public Institute for Ground Projects. This institute reported directly to the Minister of Public Works and Water Resources. It was entrusted with the study and execution of major water projects and irrigation canals.

The Ministry of the Euphrates Dam and the Institute of the Euphrates. The ministry and institute prepared studies and supervised the execution of projects related to the Euphrates and the reclamation of land in the Euphrates basin.

The Directorate of Drinking Water and Sanitation. This directorate was part of the Ministry of Housing and Public Utilities. The work of the directorate was supplemented by the following agencies in providing drinking water and sanitation on a national level:

- o Public Institutes for Water in the administrative governorates and in certain city municipalities.
- o Local Councils for drinking water and sanitation, which reported to the Ministry of Housing and Utilities.
- o Directorates for Technical Services, which were part of the councils of certain municipalities.
- o Administrative Units in municipalities of the fourth degree and other cities and towns which dealt with drinking water and sanitation.

With decisions regarding investment, allocation, operation, management, and enforcements being made at so many levels, that this competitive atmosphere seldom erupted into outright water conflict was more a reflection of the fact that Syria had at that time faced only regional water shortages than the result of rational management or decisionmaking. Nonetheless, the complication of the regulatory process inhibited the application of development and conservation strategies because of the sheer difficulty inherent in compliance.

Many decisions -- investment in major projects, agricultural production quotas, credit for infrastructure development -- were taken in the capital and passed on through government, party, or popular organization structures to the provinces. The translation of these decisions into local objectives was in the hands of local officials of different agencies. And local-level officials also had the authority to initiate certain small-scale developments, either themselves or, more likely, in concert with an array of other provincial agencies. In two instances, Syria tried to cut through this maze by establishing independent authorities with multi-faceted responsibilities to manage major projects, either at the ministerial (the Euphrates project was for a time headed by a cabinet minister) or sub-ministerial (Ghab) level. This valiant effort at simplification, in the end, added another to the list of agencies with which a Syrian had to deal.

Within such complexity, we can only identify major categories of water regulation within the Syrian system and look at examples of each. The selected categories, each governed by its own rules and practices, are agricultural water use, domestic water use, and groundwater development.

5.5.1 Agricultural Water Regulation

Historically in the twentieth century, public waters and public domains in Syria have been governed under several laws: by Law Number 144, dated June 10, 1925; by Law Number 320, dated May 26, 1926; by Legislative Decree, dated November 28, 1942; and by Law Number 148, dated June 22, 1949.

These general laws of public domain were applied specifically to irrigation water on September 27, 1958, in Law Number 165. This law restricted the right to pump public water -- both surface and groundwater -- for agricultural irrigation purposes to licenced users. Law 165 of 1958 contains several important provisions. **Article 3** states that the Ministry of Public Works and Water Resources (now defunct) determines, in accordance with the water in each basin, the maximum amount of water that can be licensed for use, the area that can be irrigated, the restrictions that must be imposed on the method of extracting water, the conditions fo protecting this water, and the limits for its use. **Article 5** states that the authorities can refuse to grant a license if it would conflict with the rights of others or with the public good. **Article 8** states that a license should be withdrawn if that would serve the public good or if it can be shown by the courts that the license causes severe damage to the rights of others.

Based on Article 3 mentioned above, the Ministry of Public Works and Water Resources issued a number of resolutions for regulating the exploitation of water in sectors, basins, and rivers whose waters are susceptible to depletion because of increasing demand and usage. Some of these resolutions are:

- o Discontinuing licensing in the Damascus Plain, Qutayfah Basin, Majar al-Qalamun Basin, Salamiyah Basin, the eastern half of Aleppo Basin, and Damsarkhu Basin (1960).
- o Withdrawing licenses granted in al-Qalamun Basin (1963).
- o Defining protection zones for Ira Springs and Barada Spring (1963).
- o Regulating the exploitation of artesian groundwater in Ras al-Ayn Basin, north of Jazireh (1963).

The administration faced some difficulties in implementing this law, derived principally from the inadequacy of information. The regulation of exploitation was to be premised on the available water potential, but many of the hydrologic basins had not been properly studied. Further, the "principle of common right", which the administration sought to impose in place of the "principle of previously acquired right", also required an assessment of the quality and quantity of annual water inflow according to basins and land areas so as to allocate it in ways that would provide equal benefit for all users. Application of these provisions of the law was therefore delayed awaiting the collation of the necessary data.

On December 7, 1972, Law Number 46 was issued. This law regulated the affairs of the government irrigation networks from the administrative, financial, juridical, and statistical aspects, with a special emphasis on the determination of annual fees. The law was motivated by the goal of unifying annual fees all over the country on the basis of the actual irrigable areas that are included in the public networks; it also cancelled the principle of cost recovery.

These laws were applied unevenly because of the inadequate statistical base, and various efforts were made to devise systems suited to the ecological circumstances and pre-existing practices of different regions. In some instances, special laws were promulgated and special administrations created. Perhaps the best studied region for agricultural water regulation was also the first to be developed: The Ghab.

According to Law 225 of 1969, which set up the autonomous Ghab authority, all lands in the water-distribution network are equal, regardless of public or private ownership. Water rights adhere to the land itself, not to ownership. Quotas for water distribution are fixed by the government administration and vary from area to area: 0.5 l/s/ha in the Ghab, 0.35 l/s/ha in Asharneh. Within each distribution area (*maqsam*), the schedule for water delivery is worked out by the peasants through the cooperatives to which they belong. A quasi-symbolic water tax of SL 70

/ha/year was decreed in 1972 for all state networks, but it is no longer being collected[4368]. Both private owners and recipients of distributed land receive water for free, but they are alike subject to the rule of the distribution network and schedule[4368]. The Ghab Project prohibits private pumping from the private stations that had previously been set up by large landowners[4255].

Distribution of state and expropriated land was executed in accordance with the Agrarian Reform Law, with elegibility determined by a Land Distribution Commission composed of representives of the Ministry of Agriculture and Agrarian Reform, the Peasants Union, the local Baath party branch, and the governorate. Law 22 of 1969 authorized distribution of land in the Ghab Project area, with minimum 2.5 ha plots going to 11,000 families[4368]. By this law, the land remains state property, with transfer to third parties strictly under state control, but the individual peasant has control over usufruct. The peasant must pay dues to his cooperative for 25 years, and must participate in achieving the production goals assigned to the cooperative. Water-sharing is worked out at the cooperative level by an elected council. The 1969 law also released peasants from prior debts to Agricultural Cooperative Bank.

For better coordination of the previously fragmented region, an autonomous Office for the Exploitation of the Ghab and Asharneh was established in 1969 and attached to the Ministry of Agriculture. This office set production goals, supervised financial and technical support for the peasants, and sought to insure that the division of land into small plots did not impede development. The peasants were organized into 52 service cooperatives which reported to twelve agricultural sections. The head of each section, usually a resident agricultural engineer, coordinated the supply of credit, seeds, fertilizers, organized deliveries of crops to state factories or to market, and disseminated technical information. He also controlled the stamps and vouchers needed for official transactions, and mediated on behalf of the peasants with the Agricultural Cooperative Bank[4368].

Practices in other regions are less well documented. There seems to be agreement among the regions on the subject of water fees -- that is, the absence of water fees. In regions where agriculture was well established before the current regime, pre-existing practices of allocation are probably of more importance than in the Ghab, where 80% of the land is reclaimed or redistributed. For regions without an independent authority like the Ghab Project, local government and various local ministry officials must coordinate the allocations and scheduling. The role of the Baath branch office or Peasants Bureau head is proportional to the regional strength of the party. All of these are pieces that made up the crazy-quilt.

5.5.2 City Water

Eight of Syria's major cities had independent (Damascus, Aleppo) or semi-independent (Hama, Homs, Latakia, Suweida, Raqqa, Idlib) water authorities. The independent water authorities had total responsibility for the water supply to their municipalities, the semi-independent authorities were subject to technical guidance from the Ministry of Housing and Public Utilities for design and construction of major projects. In smaller urban areas, distribution systems were managed by a unit within the local administrative structure[3101].

The independent and semi-independent water authorities were governed in accordance with Decree #18 of 1974 on public authorities. This decree sets forth requirements for management, lending, financial accountability, and ministerial responsibility, and defines the powers of the General Director and his administrative council. It also specifies that each authority will be established by its own separate By-Law which will spell out its detailed functions. The By-Law for Damascus (Decree #252 of 1975) defines that authority's functions, capital, sources of funds, and staff regulations in great detail; it sets up a major projects office within the authority and designates its staff positions down to the level of doorman.

Among the local authority's duties was the establishment of tariff structures to finance its operations. These are fairly complex, involving items from the purchase of water rights by large establishments (SL 2,000 per m^3/day) to installation fees, usage rates, and meter maintenance, down to an SL5 fee for name change on the account[3101]. Enforcement of those fees is another matter, with about half of municipal consumption either free or unaccounted for.

Investment in major projects, including the much-needed upgrading of leaky distribution systems and much-needed sewage treatment facilities, comes from three sources: the investment budget of the central government, the investment budget of the local administration, or external loans. As public establishments, the water authorities are authorized to enter into local and foreign loan agreements to finance their projects[3101].

5.5.3 Groundwater Regulation

Water drilling has been regulated in accordance with Resolution 208 of 1958. By this law, procedures for acquiring permits are very complicated, which inhibits efforts at compliance. One farmer reported in 1980 that he had spent 15 days and more than

SL 200 trying to get the necessary permits, and he was "still at the beginning of the road". In order for a citizen to apply for a permit, he must present the following documents[1560]:

1. Proof of land ownership.
2. Certificate of identity.
3. Police report on the required engine.
4. License for the engine, including its number, kind, and power.
5. Discharge from the Ministry of Finance.
6. Approval of the Peasants' Union.
7. Approval of half the landowners, which often requires probate of the estate. [Note that, due to inheritance laws, much private property is actually under multiple ownership.]
8. Approval of social security.

Assembling this documentation is so cumbersome and time-consuming that unauthorized drilling, with a fine usually varying from SL 25 to 50, is far easier. Further, there are few personnel to monitor what is taking place and enforcement is usually delegated to the police, who have more important duties[1560].

5.6 Current State of Water Legislation and Administration

By the 1980s, the Syrian Arab Republic was reaping the benefits and liabilities of its scientific advances and crazy-quilt administrative system for water. Impressive advances in development were being impaired by the inadequate and overly complicated administrative structures. An overall review of water legislation was instituted with the goal of unifying it into a practical framework. The result was a move to consolidate all agricultural water regulation and development into a newly formed Ministry of Irrigation, and to consolidate development of drinking water and sewerage into a directorate under the Ministry of Housing and Public Utilities.

Recent legislation has provided the following laws:

(1) **Law Number 3 of 1984.** Deals with land ownership and the confiscation of land by the government for the construction of water projects.

(2) **Law Number 14 of 1984.** Deals with the establishment, as part of the Ministry of Housing and Public Utilities, of a public institute in each of the fourteen administrative governorates, charged with the planning and execution of projects providing

drinking water and sanitation. The Ministry of Housing and Public Utilities is to be the only authorized agency to plan, execute, and coordinate projects for the provision of drinking water and sanitation and is to replace or take over responsililities of any previous authority dealing with this field throughout the country. The responsibilities of the fourteen public institutes were defined as follows:

- o To prepare, coordinate, and execute plans in the governorate relating to drinking water and sanitation within the overall gavernment policy, while taking into consideration the economic and financial indicators, and then to recommend these plans to the authorized ministry.

- o To study, plan, and execute drinking water and sanitation projects in each governorate.

- o To administer, maintain, and supervise drinking water and sanitation projects in each governorate.

This law has been put into effect, but it is facing problems for the following reasons:

- o The lack of detailed studies for some water basins.

- o The lack of specialized staff to be put in charge of projects. The absence of qualified technicians to prepare studies and to supervise the execution and maintenance of major projects is hindering the implementation of government policies in this field.

- o The slow pace of mechanization has maximized project costs.

- o The need to import materials and parts creates financial problems, which offset expected enhancement of economic growth.

- o The absence of drinking water and sanitation statistics for many towns and villages in the countryside delays planning and slows down the execution of projects. Thus, a significant sector of the population continues to depend on traditional sources for drinking water and is deprived of sanitation services.

(3) **Law Number 16 of 1985.** Deals with the establishment of the Ministry of Irrigation. The main responsibilities of the Ministry of Irrigation are the following:

- o To prepare studies related to water resources.
- o To keep track of measurements of water levels and other indicators.

- o To develop plans to protect water resources from pollution.
- o To regulate ways and means of making the best use of water resources.
- o To recommend needed projects and introduce legislation to facilitate the execution of water projects.

Despite the difficulties of establishing a new department, the Ministry of Irrigation has in its short life gathered a cadre of qualified staff into a centralized agency concerned only with water resources. A national agency for hydraulic affairs and major water projects now reports directly to the Minister of Irrigation concerning the study and the execution of different water projects. This has led to the centralization of the data collected, more efficent operations, and less dependency on foreign experts. The Ministry has also recommended additional legislation to facilitate cooperation between the Ministry of Irrigation and other government agencies, and to enhance the continued recruitment of staff qualified to plan and execute projects relating to water resources development. Among the most important of the Ministry's recommendations was the establishment of directorates of irrigation according to natural water basins and not according to administrative governorates.

(4) Law Number 17 of 1986. Deals with the establishment of directorates according to natural basins. Syria is divided into seven major basins, each with its own directorate. These directorates have already started to work. Only the Directorate of the Euphrates Basin needs more organization because of the magnitude and variety of the responsibilities assigned to it.

Upon the recommendation of the Ministry of Irrigation and by a decree of the Prime Minister, the Government has established a specialized committee to oversee the following:

- o A review of previous legislation which would lead to recommendations of new laws necessary for the facilitation of the responsibilities of the Ministry of Irrigation.
- o The introduction of legislation to enhance the modernization and development of agencies working with water resources.
- o The identification and explanation of concepts pertaining to modern water resources legislation (such as, for example, "hydrological unit" and "hydraulic basin") and the clarification of their relation to surface and groundwater resources.

- The recommendation of legislation to protect sources of surface and ground water from overuse and from pollution, so that groundwater is "safe, secure, and not depleted". This applies mainly as it applies to artesian wells, damage to which would be a major threat to large centers of population.

- The working out of a long-range water policy that will provide the nation with water for both irrigation and drinking, especially in consideration of the tremendous demographic changes and shifting economic needs of the present time.

- The introduction of legislation which considers water resources as part of the national wealth and penalizes heavily any violation that jeopardizes the safety and security of water resources.

- The review of policies related to the costs of water, mainly drinking water, and to the right to use certain springs for irrigation purposes.

These reforms and the ongoing studies are a measure of the seriousness with which the government of the Syrian Arab Republic now regards its water problems. It is too soon to tell how effective the new structures will be, whether they will indeed consolidate the regulation of water into a rational and workable system or whether the new systems will be yet another layer of bureaucracy.