TENURIAL ARRANGEMENTS AND WATER USE

With modernising influences the idylic situation, where one or more families owned and cared for their own village tank, began to disappear. Generally the tank, paddy land (yaya), settlement area (gangoda) and land fallowing area (chena) are among the basic physical features of these tank irrigation villages.Among them, there is symbiotic relationship.With the demograpic expansion, supplementary villages;tanks without settlement(olagam) are setup near the main tank, by means of building smaller tanks and preparing land for cultivation.By using natural streams, such tanks may sometimes be owned by a single family or several families in the village.

Construction of tanks and channels was done by individuals or groups and thus were used in such a way as to allow their descendants to inherit them and water mananagement regulations and rules were also formulated.

Fragmented ownership and land categories

There is a social mechanism related to the village tank irrigation system. It is an important fact that land ownership and systems of terture had been adapted so as to affect the maintenance and use of irrigation.

Paddy is grown in land below the tank bund in the command area of the village tank. Traditionally, there was a reserve land between the tank bund the command area, to supply soil for earth work on the tank bund. Currently due to increased demand for paddy land this system of reserve land has either disappeared or become smaller in size.The average size of an operational paddy holding of Dry Zone farmers is 2.8 acres.In tank villages small holders produce paddy mainly for home consumption.

Land for paddy cultivators often belonged to several categories (viz. Paraveni land, Freehold land, lease land, state encroached land).Paraveni lands are sub-divided into upper (Ihala bage), middle (Meda bage) and lower (Pahala bage) parts. Subdivision is determined by the irrigation potential of the tank. Therefore in lands served by smaller tanks this zoning is simple or does not exist. This division which aims at fair and equitable supply of water facilities has a greater rationale in the Dry Zone environment (Karunanayake, 1977).

In ancient Sri Lanka land con trol was the basis for income from land. Studies of ancient land. tenture practices show that it did not take the form of territorial proprietory rights (Codrington, 1938). Villages were founded by the permission of hereditary authorities by demarcating highland and paddy land and tank areas in jungle or barren land. Certain limits were set at the very beginning about the extent of the village and the amount of the shares (Pangus) that had to go to the villagers. Thus with demographic expansion, some people migrated to other areas and set up new villages (Obeysekara,1967). Ability to procure new land was an important factor for the existence of such a system.

Share (pangu) system was used as a means by which good/bad areas (eg. those where water was easily accessible and those where it was not) could be divided more equitably. It also provided an opportunity for communal cultivation and other forms of collaborative operation. At the very inception of a tank the shares (pangu) that should go to the villagers are determined and the ownership of the shares was distributed through the paddy track (yaya). This entails the right to water as well as the right to other resources (such as fishing).

The share system also serves as the basis for collective action in regard to the maintenance activities which are an essential element of irrigation. It is difficult to ensure a proportional supply of water without cleaning of bottoms and repairing of channels. In addition, repairs to the tank bunds and to the sluices were also done according to share systems until they were taken over by the Government under the Irrigation Ordinance of 1856.

Ownership of land passes from generation to generation. In tank irrigation villages, old land near the tank generally is divided into still smaller strips as 'Pangu', 'Kala' and 'Elamaga', Each family making use of a number of small strips of land is a feature of land tenure. When land gets restricted due to population pressure, the principle of exchange of land or user rights (eg. Tattumaru and Kattimaru becomes prevalent in tank villages. Large extents of lands are allocated for 'Elapat' at the upper and lower ends of various land segments. A strip of land which sustains greater damage by birds is set apart and is called 'Kurulupaluwa'. After these lands are allocated, the allotees are obliged to do a greater part of the work involved in the maintenance and cleaning of channels and setting up of the fences in each zone in such a way as to benefit the whole stretch of paddy fields. Adjoining these zones are other zones called 'Gamwasam'. The persons who come to

own these zones (called Gamaralas) must ensure that the ceremonies relating to cultivation get the necessary goods and services. Paddy growing is not an occupation; it is a way of life, closely interwoven with other social activities. Each stage in the agricultural cycle is accompanied by special ceremonies. Ceremonies with irrigation and cultivation afford an opportunity for solving problems that arise in relation to water use (Karunanayake, 1978; levers, 1899).

The 'Bethma' Principle

Ownership of segments of land mentioned earlier also helps the implementation of the Division (Bethma) principle whereby at least a portion of the land is cultivated utilizing the available amount of water during periodic shortages of water in the Dry Zone. The Bethma system in which the available amount of water is used collectively and more equitably is another important feature of the village irrigation system. Segments of land to which water can be supplied and are closer to the tank and where collective ownership prevails are selected for this purpose and are used in accordance with the share system of ownership.

Tank and canal system

As water is a more decisive factor in agriculture than land in the Dry Zone, there has been great care in using tanks for storage and preservation of seasonal rain water for cultivation purposes. The construction of tanks which has evolved from the earliest settlement has been done by individuals or groups in accordance with the size of the tanks and the needs. Tanks have been constructed by putting up an earthen bund in such a way as to collect run-off water in a catchment during the rainy season or the water in streamlets. At the beginning a low bund is put up and later it is gradually raised according to necessity. Taking the natural features of the valley into consideration, the spill is constructed at one end of the bund. In order to protect the bund and according to the size of the tank a 'Relapanawa' is sometimes constructed by laying stones, and this is another feature of the tank (Tilakasiri, 1984).

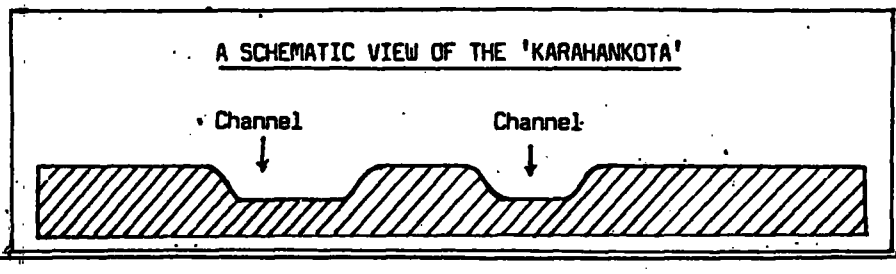
A tank of ordinary size usually has two sluices. There is a minor sluice (Goda Horowwa) at a higher elevation so that higher land also can be made use of for cultivation when the level of water is high. However, when the tank is small, and at the beginning of the construction of any tank only the main sluice (Mada Horowwa) which is located at a lower level is constructed. This sluice is used to supply water to the original lands. For this purpose there were 'Biskotuwa' in early times (Leach, 1961). In more recent times there have been other types of sluices under village tank irrigation development works (viz. vertical pipe sluice, plug sluice, tower sluice etc.)

This irrigation system starts with the main sluice and a minor sluice. The main channels (Raja wella) are connected to this sluice and the various minor channels take the water to various segments of paddy land. These bunds are also made of earth. Each paddy plot has a separate inlet (Wakkada). A separate minor channel is made for irrigating the paddy lands and quite often it is parallel to the main channel.

'Karahankota' a water device

Karahankota is a wooden weir into which flat bottomed grooves of varying widths are cut to apportion water flows. It has two or more grooves depending on the number of channels to which water is allocated (see figure). Each groove is often of equal depth and its width is determined by the extent of the land concerned. Leach (1961) who describes this in relation to the village of Pul-Eliya says that at the beginning the measurements made to the 'Wadu Riyana' were used but later the measurements were made in inches. The necessary Karahankotas have to be procured by the Irrigation Headman at the beginning of the cultivation season.

The most critical aspect of social organisation, as it relates to the village tanks, concerns collective decisions by the community on the timing and distribution of tank water use and maintenance of the tank system; the forum for such decisions are the Kanna meetings. Kanna meetings are held prior to each cultivation season. These meetings are organised by the Vel Vidane who is elected by the cultivators for a period of three years. He is entrusted with several other responsibilitites apart from organising the kanna meetings. These include operating sluices, ensuring fair distribution of water to all fields in the command area, mobilizing farmers to repair and maintain the tank system, conflict resolution on irrigation and other related issues, reporting to the local Agrarian Service Centre, and acting as a liaison between the cultivators and the local ASC staff.



NOTE

1. The Cultivation Committees instituted by the Paddy Lands Act of 1958, replaced the 'Vel Vidane' system of the British period. These in turn were replaced by the Cultivation Officer and a farmer representative (now referred to as Vel Vidane) by the Agrarian Services Act of 1979. However, under the new set-up the Vel Vidanes are not armed with formal power and authority as was found under the earlier system.

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