The History of Water Use in Western Samos (Marathokampos)

Ch. Körner - Limnionas/Basel - September 2005

With its typical East Mediterranean climate, the Island of Samos has long dry summers and short wet winters. Most of the annual precipitation falls between November and March, with the period of May-September near to rainless, and April and October transition months with scattered rains, depending on year. Until 1972, the mean annual rainfall in Samos was 880 mm (1930-1972). Since then, rainfall declined, most likely because of global climatic changes, and now averages at 625 mm per year (1990-2000). However year to year variation is large. For instance, it rained only ca 520 mm in 1932, but 1400 mm in 1936. In more recent years, this variability remained, but at a lower overall level. For instance, it rained 1000 mm in 1998 (the highest in 20 years), only 600 mm in 1999 and an all times low of only ca. 360 mm in the year 2000. During this year even 80 year old pine trees died near Limnionas and Kalithea, und much of the bush on rocky slopes desiccated to death, still visible today in 2005.

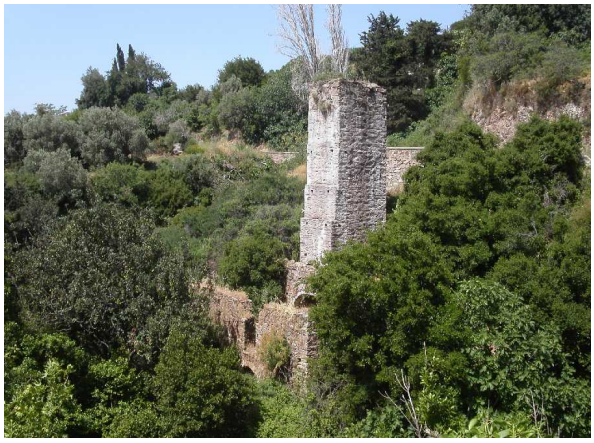
The decline in precipitation did so far not affect municipial water supplies, which depends on larger catchments fed by the large karstik mountain systems of Kerkis and Ambelos, but many of the small springs which were used for farming disappeared in recent years. Interviews with local inhabitants in Drakei, Limnionas by Dimitrios Christodoulakis and the W-Ambelos region by Konstantinos Riglis revealed a wave-like disappearance of springs during dry periods such as 1972-1973, 1982-1983, 1987, 1992-1993 and 1999-2000. These drought periods coincide with strong so-called ENSO years, during which the pressure gradient between the Azores High and the Island Low in the Atlantik was very steep, channeling most of the Atlantik moisture to central and northern Europe, and permitting the Saharan climate belt to move northwards in to the Mediterranean. These trends had been predicted by climatologists to result from global climatic warming. Samos and the other islands of the Aegean have become drier, as evidenced by a careful data analysis and the study of tree-rings in pines by Dimitrios Sarris of the University of Patras. In dry years, during which springs disappeared, pines produced only very small tree-rings.

All this evidences that water was, and increasingly is a scarce resource in Samos. It is thus wise to care for water, don't waste it, and remind both the young generation (school children) and the touristic guests of the history of water use on the island, which is fascinating. One could even envisage a 'water trail' passing historical sites of water use. Here, I collect a few points of interest, which, together with others to be explored for this pupose, could become touristic milestones of such a trail. Most of the sites could be made accessible and attractive with very little effort, mainly cleaning the place and setting up an information board. In frew cases it could be helpful to have a paved trail, a few stone steps, and some careful reconstruction of damaged parts.

Reference: Ch. Körner, D. Sarris & D. Christodoulakis (2005) Long-term increase in climatic dryness in the East-Mediterranean as evidenced for the island of Samos. In the Journal: Regional Environmental Change (Springer) 5:27-36. Reprint requests: <ch.koerner@unibas.ch>

Aquaeduct E of Ormos

Bridge N of Kampos



Tower of water-mill, S of Marathokampos

Creek above Kampos on the flanks of Kerkis

Hydraulic Oil press, powered by steam engines, S of Komeika

Small rural springs in the NW Ambelos and E Kerkis flanks, some sophisticated some very simple, some still yielding water (left), some dried out (right).