Community Forestry

Local Values, Conflict and Forest Governance

Ryan C. L. Bullock & Kevin S. Hanna, 2012. ISBN 978-0-521-13758-4 Cambridge University Press, New York, N.Y. US \$ 55.95 (paperback) + shipping. Contact: publicity@cambridge.org

Providing a critical and incisive examination of community forestry, this is a detailed study of complex issues in local forest governance, community sustainability, and grassroots environmentalism. It explores community forestry as an alternative form of local collaborative governance in globally significant developed forest regions, with examples ranging from the Gulf Islands of British Columbia to Scandinavia.

Responding to the global trend in devolution of control over forest resources and the ever-increasing need

for more sustainable approaches to forest governance, this book highlights both the possibilities and challenges associated with community forestry. It features compelling case studies and accounts from those directly involved with community forestry efforts, providing unique insight into the underlying social processes, issues, events and perceptions. It will equip students, Researchers, and practitioners with a deep understanding of both the evolution and the management of community forestry in a pan-national context.

BOOK REVIEWS ❖ REVUE DE LIVRES

A Forest on the Sea

Environmental Expertise in Renaissance Venice

Karl Appuhn, 2009, ISBN-13:978-0-8018-9261-5 The John Hopkins University Press, Baltimore, MD, USA. 361 pp. US \$62.00 + shipping from amazon.com

This is a remarkable piece of history and very well written. It is about forests and people, the development and application of forest management authority, the weighing of private versus public interests, the influence of wealth versus poverty. It covers issues of demand and supply of wood products, including price controls, the structure and function of bureaucracy, the importance of technology, the development and application of forest management practices and expertise, and the significance of differences in attitudes toward nature. The history extends from the 14th to the 18th centuries. Following in concert with the author's final remarks, I came away thinking that there is much to learn from the Venetian Republic that can and should be applied in today's world.

The title of the book illustrates well the challenges faced by the republic – a republic that was highly dependent on

shipping to support its trade and defend its trade routes. In the first sense the forest on the sea refers to the wooden ships needed to support that trade. Shipbuilding involved the use of many wood products, including firewood, charcoal, and high-quality oak (hulls), beech (oars), and fir (masts). The Venetians were industrious and innovative ship builders. They designed and built a new kind of ship, the great galley that evolved from a combination of the traditional longship or light galley, powered by large banks of oars, and the medieval round ships, powered by sail. The great galley hull was made entirely from durmast oak while traditional galleys had used fir; these new ships were more durable but also more expensive (to build and operate) than earlier vessels.

Then there is Venice itself. It too can be seen as a forest on the sea. The city stands on a foundation of millions of

wooden piles brought from the mainland. Thousands of boats supplied all the basic services to the city, from food and fresh water from the mainland, and tens of thousands of mooring pylons to which the boats were tied. Larch, alder, and oak beams composed the structural core of Venice's famous palaces and churches. The city's 150,000 residents

depended exclusively on firewood from the mainland (also forests on, or at least by the sea) for survival during the cold winters.

For the Venetians the struggle was not against nature; it was with nature, to maintain an appropriate balance in nature. Ships needed to gain access to Venice. The lagoon needed to be kept free of silt; the ocean left to freely penetrate the lagoon, to clear the silt from the harbour and reduce the need for dredging. In 1442 Marco Cornaro rendered his commissioned report on the state of forests on the mainland. Upon completion of his work, Cornaro chose instead to focus on silt that was being produced by various rivers draining into the north western part of the Adriatic Sea, including the Brenta, Piave, and Livenza Rivers. He cited the cutting of trees along river banks of these rivers as causing increased siltation. The precarious balance of nature – between the amount of silt coming into the harbor from rivers and the amount being removed by ocean tides – could be best managed by ensuring stream banks were planted and protected with trees. The Venetians were active in dredging their harbor in order to maintain trade, but the need for this costly endeavor might be reduced by better management of the largely agricultural, riparian areas around the lagoon, and at the same time help service the demands for wood.

Appuhn emphasizes Cornaro's report (and another much earlier anonymous report) as a starting point to illustrate how the need to protect the balance of nature informed subsequent developments in the identification, survey, protection and eventually administration of forests to be managed in the public interests. Their view of the need for forest protection was regarded as an effort to preserve the delicate balance of nature, on one hand against rapacious humans acting out of self interest and without concern for the broader interests of society, and on the other, to serve their needs, particularly for large high quality timber of suitable species. If destructive acts were allowed to continue unabated the very survival of nature and society would be at stake. The concern was for the survival of society as a whole, providing justification to the Venetians in constraining local access and utilization of mainland forest that were born purely of self inter-

est. It was necessary to maintain the delicate balance of nature and in so doing, the continued existence and prosperity of the Republic of Venice.

The maintenance of adequate wood supplies was a tricky business. Harvesting was limited to certain times of the year when river flows were sufficient to carry logs to the ocean. It relied on recruiting a labour force for short periods of time. People were seconded from their day-to-day work to be of service to the state. This labour was viewed as part of a price to be paid in return for protection by the state, but people quickly learned they could always work slowly or not at all in an effort to obtain more money for their services. In the early years local estate holders supervised harvesting and transportation activities, but they sometimes abused this privilege by siphoning some of the wood produced for private gain. The state tried various strategies to produce wood at affordable prices, including price controls, but this had the effect of siphoning an even greater supply away from the state and toward outside (black market) interests willing to pay a higher price. As if these aspects of wood supply were not enough of a challenge, there was also the black plague that periodically led to labour shortages, thereby reducing the amount of timber that could be supplied in spite of continuing demand. The state was also plagued by self-conflict through the structure of its bureaucracy. On the one hand, the Arsenal was responsible for acquiring timbers for ship building, and on the other for acquisition of firewood under the authority of two separate agencies. In the process of protecting forests to produce high quality timbers by and for the (ship building) Arsenal, those responsible for firewood were inadvertently barred from accessing certain areas and thus required to extend their search for sources of supply further afield. This increased the cost of wood and the risks of supplying it through contracts with individuals that could more easily escape from the terms of their obligations without impunity. This is a story about how the Venetian republic advanced its policies and practices to overcome these obstacles.

Beyond enacting laws to protect large oak and beech trees, the Venetians took control of portions of local common properties and designated them as protected forests under the authority of

the state. This created an air of adversity between the state, local patrons and peasants, each of whom saw these forests as belonging to them. One means of reducing the tension was to appoint members of the local establishment to positions of authority in the production of timber according to rules set by the state. Unfortunately some local authorities took advantage of these positions for personal gain. Where possible Venetian state officials caught and prosecuted wrong doers. This was executed by a judiciary with witnesses that were brought to testify on behalf of both parties. In the meantime the bureaucracy often turned a blind eye to the many but relatively small indiscretions of the poor who needed access to woodlands for firewood and other domestic uses. In return for this kindness peasants were willing to bear witnesses to violations carried out by those in positions of power, a process that also protected the interests of the whistle blowers. With time the larger and more important state protected forests came under more direct Venetian control and state administration. The practice of forest thinning was also invoked as a means of satisfying local needs while leaving certain trees for the production of high quality timbers.

There were two specific issues that really struck me as being interesting given the distance in time and place. In the 17th century Venetians developed very detailed and accurate cadastral surveys of forests identifying specific locations, species, numbers, and sizes of trees as well as property boundaries and ownership. Property boundaries and locations of large trees were also described in detailed surveyor notes so that the exact locations could be re-established upon later survey and any changes could be monitored. As time developed they also included detailed maps drawn with attention to proper topographical scale and accuracy from a planimetric point of view. These were used by the forest administrators and also the judiciary to identify where and when theft had occurred. Maps were also produced from oblique points of view with more attention given to conveying forest characteristics. These latter maps had origins in both science and artistic impression. They were particularly useful for communicating the state of the forests to Senators and the Council of 10 that had no direct experience with mainland forests and forested

landscapes and yet were responsible for establishing forest protection and management rules. Inventories of this kind were commissioned periodically; it appears that two copies were generally produced on each occasion with one copy kept by those responsible for local forest management and the other held by state administrators. As time progressed, an accurate inventory was increasingly seen as a vital component of forest management and protection, for development of harvesting and regeneration prescriptions, scheduling harvests, identifying where violations of rules had occurred, meeting demands for supply, and changing forest protection policies.

The second issue that struck me was on the notion of sustained yield. The Venetians were exposed to the concept of managing forests according to a strict schedule of harvesting and thinning that could be sustained in perpetuity. Appuhn illustrates a “perpetual calendar” that was developed as an aid for this purpose. The device could be used to indicate when harvesting should occur in any given year, this being dur-

ing the first crescent moon in February, and either the last crescent moon in August or the first one in September, marking the beginning of winter and summer harvests respectively. However, the concept of sustained yield did not really resonate with their view of the need to manage for the purpose of maintaining or restoring the balance of nature. Nor could it fulfill the fluctuating demands for wood by the Arsenal, particularly during peaks in demand caused by war. The Venetians recognized forests as being complex with varying species compositions, stand structures, and productivities. Forests needed to be protected but within limits humans also needed to utilize forests for survival and well-being. This resonates today with the notions of natural disturbance philosophy and the need to maintain forests within (perceived) natural ranges of variation. In the Venetian case, humans were clearly part of creating and maintaining that natural variation, but with the potential to exceed those bounds without application of forest management constraints.

My delight in this book is my delight in the practice of professional forestry. The enjoyment comes from the connection of nature with an understanding of what is nature, and with people and our engagements with nature for better or worse. During my career I too encountered those who stole wood from public land and from corporations for private gain. Sometimes they got caught. There is much in this book that is as relevant today as it was during the fourteenth to eighteenth centuries. For anybody interested in the notion of sustainability and even better, interested in doing something about it, this book is recommended as a source of knowledge and inspiration.

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