



Society and environment: a millennia of landownership, land use and environmental change in Iceland

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Since the Norse settlement of Iceland in the late 9th century the island of Iceland has lost nearly all of its pre-settlement woodland and as much as half of its volcanic soils. The result is a landscape scarred by erosion and discontinuous vegetation. How such large-scale land degradation has progressed in time and space is debated, as are the relative roles of possible underlying mechanisms, one of which is land-use. Palaeoecological and geomorphological studies evidence large-scale woodland clearance and consequent soil erosion in both inhabited areas and rangelands, from the dawn of settlement until the present. These studies generally stop short of investigating possible social or economic causes of environmental decline. Neither do they normally place them within theoretical models for change (e.g. gradual or step-like, or not) or discuss whether particular disturbances in society translate into environmental disturbance, or vice versa.

This paper examines possible links between patterns in palaeoecological data on the one hand, and historical and (bio)archaeological records on the other. The environmental data indicate a three-step environmental decline, all of which can be linked to specific social or economic transformations in society: 1) The actual settlement which precipitated ongoing erosion, yet took place within a period of relatively favourable climate. 2) Transformation of farming from privately owned farms to tenant based, and a corresponding increase in shepherding at the expense of cattle-based dairy production; contemporaneous with 13th and 14th century woodland decline and a consequent increase in soil erosion. 3) Amplified environmental degradation from the late 19th century is coincident with a near-continuous increase in sheep numbers, the result of the opening of markets for sheep products in North Europe and technological advances in agriculture.