Integrating People, Soils, Animals and Landscapes To Sustain Agriculture in the Central Highlands of Ethiopia. (A06-weil171452-Oral)

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Abstract:

Some 20 million people farm the Central Highlands of Ethiopia, using methods grown of a 2000 y farming tradition. Small grains and pulses are the major crops, beef, milk and hides, the major animal products, the ox-drawn pointed plow or 'maresha' the major implement of tillage. After centuries of sustained productivity, this agroecosystem system is in a decline under the linked processes of overgrazing, deforestation (now nearly complete), soil depletion, land degradation brought about by population growth, insecure land tenure and unplanned agricultural intensification. Piecemeal technical improvements (fertilizer imports, crop breeding, sporadic physical conservation measures) have increased yields where farmers can afford them, but seem unlikely to reverse the ecosystem decline. Proposed here is an integrated approach to developing an improved farming system that uses the land and water resources more effectively and sustainably, simultaneously addressing the crises of energy (draft power and fuelwood) and soil degradation (erosion and depletion). Key elements would include intensively managed rotational grazing, crop rotation, cover crops, no-till and conservation tillage, increased internal nutrient cycling, and improved cook stoves. These measures, requiring community-level cooperation and national policy changes, could work together to control erosion and nutrient losses, reduce draft animal requirements, and reduce fuel requirements, leaving more manure and crop residues available for soil improvement.

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