

JOURNAL OF SOIL AND WATER  
**Conservation**

NOVEMBER-DECEMBER 1993

VOLUME 48, NUMBER 6

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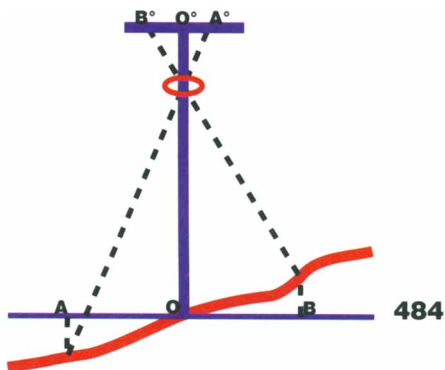
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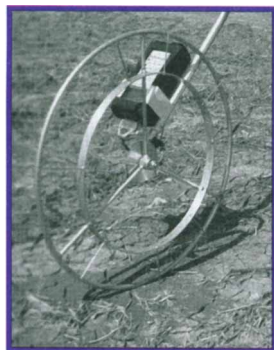
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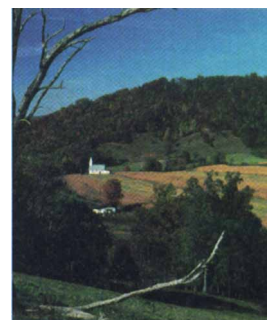
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Stripcropping in Virginia.  
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 Soil Conservation Service.

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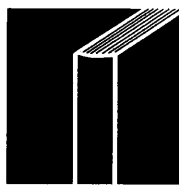
*Journal of Soil and Water Conservation* (ISSN 0022-4561) is published six times a year in January, March, May, July, September, and November by the Soil and Water Conservation Society, 7515 N.E. Ankeny Road, Ankeny, Iowa 50021-9764. Second class postage paid at Ankeny, Iowa, and additional mailing offices. POSTMASTER: Send address changes to *Journal of Soil and Water Conservation*, 7515 N.E. Ankeny Road, Ankeny, Iowa 50021-9764. Copyright ©1993 by the Soil and Water Conservation Society. SWCS assumes no responsibility for statements and opinions expressed by contributors. Address all editorial and business correspondence to *Journal of Soil and Water Conservation*, 7515 N.E. Ankeny Road, Ankeny, Iowa 50021-9764; telephone (515) 289-2331; fax (515) 289-1227. Subscription is by membership in the Soil and Water Conservation Society or by subscription. Membership dues are \$44 a year (\$50 outside the United States and Canada); subscriptions are \$39 a year (\$44 outside the United States and Canada). To order reprints of articles, single copies, and back issues, please call SWCS. The *JSWC* editorial index lists articles by subject and author and appears annually in the Nov/Dec issue.

STATEMENT OF OWNERSHIP, MANAGEMENT, AND CIRCULATION

**1A. Title of Publication:** *Journal of Soil and Water Conservation*.  
**1B. Publication Number:** 0022 4561. **2. Date of Filing:** September 30, 1993. **3. Frequency of Issue:** Bimonthly. **3A. No. of Issues Published Annually:** Six. **3B. Annual Subscription Price:** \$39.00. **4. Complete Mailing Address of Known Office of Publication:** 7515 Northeast Ankeny Road, Ankeny, Iowa 50021-9764 (Polk County). **5. Complete Mailing Address of the Headquarters of General Business Offices of the Publisher:** 7515 Northeast Ankeny Road, Ankeny, Iowa 50021-9764. **6. Names and Complete Addresses of Publisher, Editor and Managing Editor:** *Publisher:* Soil and Water Conservation Society, 7515 Northeast Ankeny Road, Ankeny, Iowa 50021-9764. *Editor:* Paula L. Porter, 7515 Northeast Ankeny Road, Ankeny, Iowa 50021-9764. *Assistant Editor:* Doug Snyder, 7515 Northeast Ankeny Road, Ankeny, Iowa 50021-9764. **7. Owner:** Soil and Water Conservation Society, 7515 Northeast Ankeny Road, Ankeny, Iowa 50021-9764. **8. Known Bondholders, Mortgages, and Other Security Holders Owning or Holding 1 Percent or More of Total Amount of Bonds, Mortgages or Other Securities:** None. **9.** The purpose, function, and nonprofit status of this organization and the exempt status for Federal income tax purposes has not changed during the past 12 months. **10. Extent and Nature of Circulation:**

	Average No. Copies Each Issue During Preceding 12 months	Actual No. Copies of Single Issue Published Nearest to Filing Date
A. Total No. Copies Printed—61,809	11,983	11,900
B. Paid Circulation		
1. Sales through Dealers and Carriers, Street Vendors, and Counter Sales	0	0
2. Mail Subscriptions—56,660	10,661	10,346
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## B O O K S , E T C .

***Towards Sustainability: Soil and Water Research Priorities for Developing Countries.*** National Research Council. 65 pp., 1991. National Academy Press, Washington, D.C. 20418. \$19.00 paperback.

Like most of the recent works on transforming institutional research and educational systems toward the concept of sustainability, this book is more conceptual than concrete. Skeptics of sustainable agriculture might find this book of interest, however, since there is perhaps no better illustration of the interconnected agricultural/economic/social web implied in the term "sustainable" than that of the developing country.

For those unfamiliar with agriculture globally, the book does a good job of contrasting a world made up of largely developed (mostly temperate) and developing (mostly tropical) countries. Tropical environments have special agricultural problems brought about by a lack of cold weather to break pest cycles, cyclical precipitation patterns, and year-round crop growth. Virtually untapped resources also abound, however, in the great diversity of plants, animals, and cultures generally found in these countries. Though circumstances differ between the developed and developing world, the research priorities identified in achieving a more sustainable agriculture were similar—overcoming institutional constraints to conservation, enhancing soil biological processes, better managing soil properties, improving water resource management, better matching crops to environments, and effectively incorporating economic and social goals into agricultural research.

Ironically, the U.S. is a leader in tropical agricultural research. Critics claim, however, such achievement came more from institutional and sci-

entist self-interest rather than the needs of the developing country. The book effectively portrays both the need and opportunity for researchers to partner with the vast pool of indigenous knowledge that exists in most developing countries. It also realistically points out that such knowledge does not always lead to sustainability, but rather a better understanding of socio-economic values and behavior.

Throughout the book, the panel of authors echo the complaint often heard among the research community, that more is known than applied; that much of the problem of natural resource degradation is from farmers not practicing proven techniques of soil and water conservation. To the book's credit, it warns that development of proven technologies will not be enough to achieve sustainability. It suggests scientists seek a new and more effective continuum between researcher and farmer that can deal with all the factors inherent in farming. Solving economic, social, institutional, and cultural barriers should become just as important as achieving greater productivity, and will better insure adoption. Sustainability must be a goal that the farmer can afford to achieve.

Beyond a call for improved communication, a more holistic systems approach to problem-solving, and taking seriously the concerns of the farmer, economist, sociologist, anthropologist, and policymaker, the book also advocates more research in several other critical areas. Biological nitrogen fixation research is encouraged, as well as more emphasis on organic soil amendments that are locally produced and available for transport. Water harvesting and irrigation research were also suggested to be increased with additional effort directed at small-scale, rather than large-scale, irrigation projects.

In all, the book speaks to both developed and developing countries since, despite different circumstances, the problems are much the same. Another universal problem brought out in the book is competition for "ownership" of sustainability among the world's agricultural and environmental communities. Cooperation between the agricultural and environmental communities will not come from institutional or research directives. It will only come from us all as individuals.—**JOHN C. GARDNER**, *North Dakota State University, Carrington Research Extension Center, Carrington, ND 58421.*

### General

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