

WORLD RESOURCES INSTITUTE

1709 New York Avenue, N.W., Washington, D.C. 20006, Telephone: 202-638-6300
Facsimile: 202-638-0036 Telex: 64414 WRIWASH Direct Dial: (202) 662-

January 1994

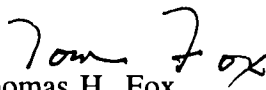
Dear Colleague,

Enclosed is a copy of the latest issue from the Center for International Development and Environment's publication series, *Issues in Development*. "Environmental and Natural Resource Accounting: Where to Begin?" was written by Carrie Meyer--a member of both the Center and WRI's Economics and Population research program.

"Green accounting" has taken the environmental community by storm but has left many laymen in need of an orientation. The purpose of this paper is to provide that orientation--in the most accessible manner possible to the interested policymaker, environmentalist, or new-to-the-field researcher--and to diffuse some of the confusion and controversy that surrounds green accounting so that further progress can be made toward incorporating environmental information into policy decisions.

I hope that you find this publication useful and interesting. I welcome any comments you might have.

Sincerely,


Thomas H. Fox
Director

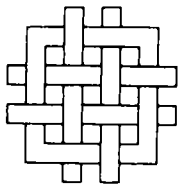
Center for International Development and Environment

Clinton Presidential Records Digital Records Marker

This is not a presidential record. This is used as an administrative marker by the William J. Clinton Presidential Library Staff.

This marker identifies the place of a publication.

Publications have not been scanned in their entirety for the purpose of digitization. To see the full publication please search online or visit the Clinton Presidential Library's Research Room.



DEVELOPMENT

ENVIRONMENTAL AND NATURAL RESOURCE ACCOUNTING: Where to Begin?

by Carrie A. Meyer

Center for International Development and Environment

I. AN ORIENTATION TO GREEN ACCOUNTING

For good reason "green accounting" is beginning to receive policy-makers' attention: accounting systems support the data and analysis that we use to allocate resources for sustainable development. Unfortunately, our natural resources—which are becoming increasingly scarce and degraded—are not well accounted for and policy-makers have been receiving false signals. The depletion and degradation of environmental assets and services threaten future production and consumption. The accurate measurement of sustainable income—an important objective of our accounting systems—is impossible unless the environment is taken into account.¹ Much of the economic data produced by our national accounting systems are similarly flawed, as are many of the policy prescriptions based on these data.

The most glaring omission in the national accounts is related to the depreciation of natural capital. When natural assets are used up, both the activity and the value of the assets enter positively into national product accounts—when forests are cut and sold or oil pumped from the ground and sold, gross domestic product (GDP) increases—but no notice is taken of the natural capital consumed. Man-made capital is depreciated in national accounts to arrive at net income or net domestic product (NDP). The depreciation of natural capital—timber, minerals, soil—which is entirely analogous as a productive capital input—is ignored.

"Natural resource accounting" attempts to correct national accounts for the depletion of natural capital. "Environmental accounting" is a broader exercise involving more complex problems. Many of the services or benefits that a healthy environment afford have never been included in accounting systems. For example, when the recreational value of our parks and environment deteriorates, nothing is subtracted from our conventional aggregates because the benefits were never recognized (in accounting terms) to begin with. The valuation of these environmental benefits and the costs of their deterioration are delicate issues that don't necessarily come up in the case of resource depletion—oil and timber are valued at market prices.

As natural resources become more scarce and our natural environment more threatened, the importance of incorporating this information into our accounting systems—and, hence, our entire decision-making apparatus—becomes all the more urgent. But making our national accounting systems environmentally friendly is easier said than done. Confusion and controversy surround the topic of environmental accounting—again, for many good reasons.

Confusion and Controversy

In the first place, conceptual problems abound in trying to arrive at any truly reflective measure of sustainable income (Eisner 1988, Lange and Duchin 1993). The physical depreciation (or "wearing out") of natural capital need not imply an economic depreciation or vice versa (Peskin 1993). An economic depreciation of natural capital refers to a change in the *value* of the capital over time. On the other hand, we can use natural capital and invest the proceeds in man-made capital or human capital for the benefit of human society, but to what extent are natural capital and man-made capital substitutes for each other? At some point, environmental degradation begins to threaten our very existence whether or not an "equal" investment is made. (See Lange and Duchin 1993) For this reason, some analysts focus on sustainable natural capital as opposed to sustainable income (Bartelmus and Tardos 1993).²

The practical (and conceptual) questions of how to value non-marketed environmental services that aren't priced also provoke controversy. (In natural resource accounting, resources generally have market prices, so this problem especially plagues environmental accounting.)³ Not all valuation techniques inspire confidence. For example, the contingent valuation approach—basically, directly asking people what they are willing to pay for a particular benefit—and estimates based on the identification of a dose-response relationship (e.g., a dose of a pesticide exposes X number of people to a risk of a certain kind of health problem) have been criticized as very difficult, expensive, and ultimately unsatisfactory although their intent is to arrive at the "true" value of the resource.⁴ Thus, the consensus seems