



TOGETHER
for a sustainable future

OCCASION

This publication has been made available to the public on the occasion of the 50th anniversary of the United Nations Industrial Development Organisation.



TOGETHER
for a sustainable future

DISCLAIMER

This document has been produced without formal United Nations editing. The designations employed and the presentation of the material in this document do not imply the expression of any opinion whatsoever on the part of the Secretariat of the United Nations Industrial Development Organization (UNIDO) concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries, or its economic system or degree of development. Designations such as “developed”, “industrialized” and “developing” are intended for statistical convenience and do not necessarily express a judgment about the stage reached by a particular country or area in the development process. Mention of firm names or commercial products does not constitute an endorsement by UNIDO.

FAIR USE POLICY

Any part of this publication may be quoted and referenced for educational and research purposes without additional permission from UNIDO. However, those who make use of quoting and referencing this publication are requested to follow the Fair Use Policy of giving due credit to UNIDO.

CONTACT

Please contact publications@unido.org for further information concerning UNIDO publications.

For more information about UNIDO, please visit us at www.unido.org

09052-E

Distr.
LIMITED

UNIDO/IOD.247
23 March 1979

UNITED NATIONS INDUSTRIAL
DEVELOPMENT ORGANIZATION

ENGLISH
Original: FRENCH

Meeting of a group of experts on
the standardization of industrial
accounting in developing countries:
development of systems and training of personnel,

000101

Organized by UNIDO
and the Government of the People's Republic of Benin
at Cotonou from 9 to 14 April 1979

SOME CONSIDERATIONS ON THE CONCEPT OF
DEPRECIATION IN COST ACCOUNTING

by

Michel Spilman
UNIDO Expert

- 2 -

SOME CONSIDERATIONS ON THE CONCEPT OF DEPRECIATION
IN COST ACCOUNTING

1. Introduction

We may begin, first of all, with a few words about the concept of depreciation in general accounting. The figure taken is that obtained by applying rules for spreading the value of fixed assets, taken at their purchase cost, over a period of time; the depreciation may be linear or degressive, and the rules are generally fixed once and for all for the whole period, rarely being modified even in the event of unforeseen obsolescence.

These rules meet the requirements imposed by factors external to the enterprise. For fiscal reasons there is "over-depreciation" at the maximum rate (one of the explanations for the practice of leasing). The appearance of obsolescence leads to "under-depreciation".

The depreciation figure is generally an annual one, because it appears in official documents which are themselves generally annual.

The depreciation figure may be for the enterprise as a whole, or in certain particular cases for sets of fixed assets of varying nature, each set having a single rule for spreading the value over time.

2. Characteristics of depreciation in cost accounting

It is essential to bear in mind one of the main aims of cost accounting, namely, to make the products pay for all the expenses incurred in their production, and thus to obtain their cost.

Cost accounting may be regarded as a photographic process by which all the operations of an enterprise can be visualized in detail on a photograph which is essentially instantaneous. However, in practice, not all expenses can be recorded at a particular moment in time t , and what appears on the photograph will be the average value of each of the constituent elements between times t_1 and t_2 .

The normal practice is to take $t_2 - t_1 =$ one month. This is in no way essential; the considerations involved are not at all binding but are purely a matter of internal practice.

The rôle of depreciation is to compensate for the variation over time in the value of each of the enterprise's means of production. This variation can be regarded as "consumption of capital goods" between times t_1 and t_2 , or as "loss in value". It is the amount which enables the enterprise's capital to be reconstituted.

3. Estimation of depreciation in cost accounting

Let us look at the photograph. On it we see fixed assets the value of which, at the moment when the photograph was taken, constitutes one of the elements of the real value of the capital. This is thus the market value of goods at the time t .

Since we are obliged to take a period (and not a moment in time) in order to record the expenses, we shall have to consider the variation in the market value over the period chosen, which is usually one month. From this standpoint, the depreciation will be a fixed cost (for the period in question).

But in the absence of regular market quotations (such as "Argus" for cars), estimating the market value of fixed assets is far from easy and depends very much on who is doing it. A fortiori, and estimate of the variation in the market value over such a short period as a month can usually be no more than guess-work.

We therefore have to find some other method.

Whatever happens, we have to start from the market value as estimated for the period in question. Let us now take an "expectation of life" for each non-productive fixed asset and an "expectation of production" for each productive fixed asset. We can then define the "unit depreciation" as the ratio of the market value (minus the estimated residual value when the asset is no longer serviceable) to the expectation of life or of production.

The unit depreciation of non-productive assets will be related to the period taken, e.g. one month, and charged directly. It constitutes a fixed cost.

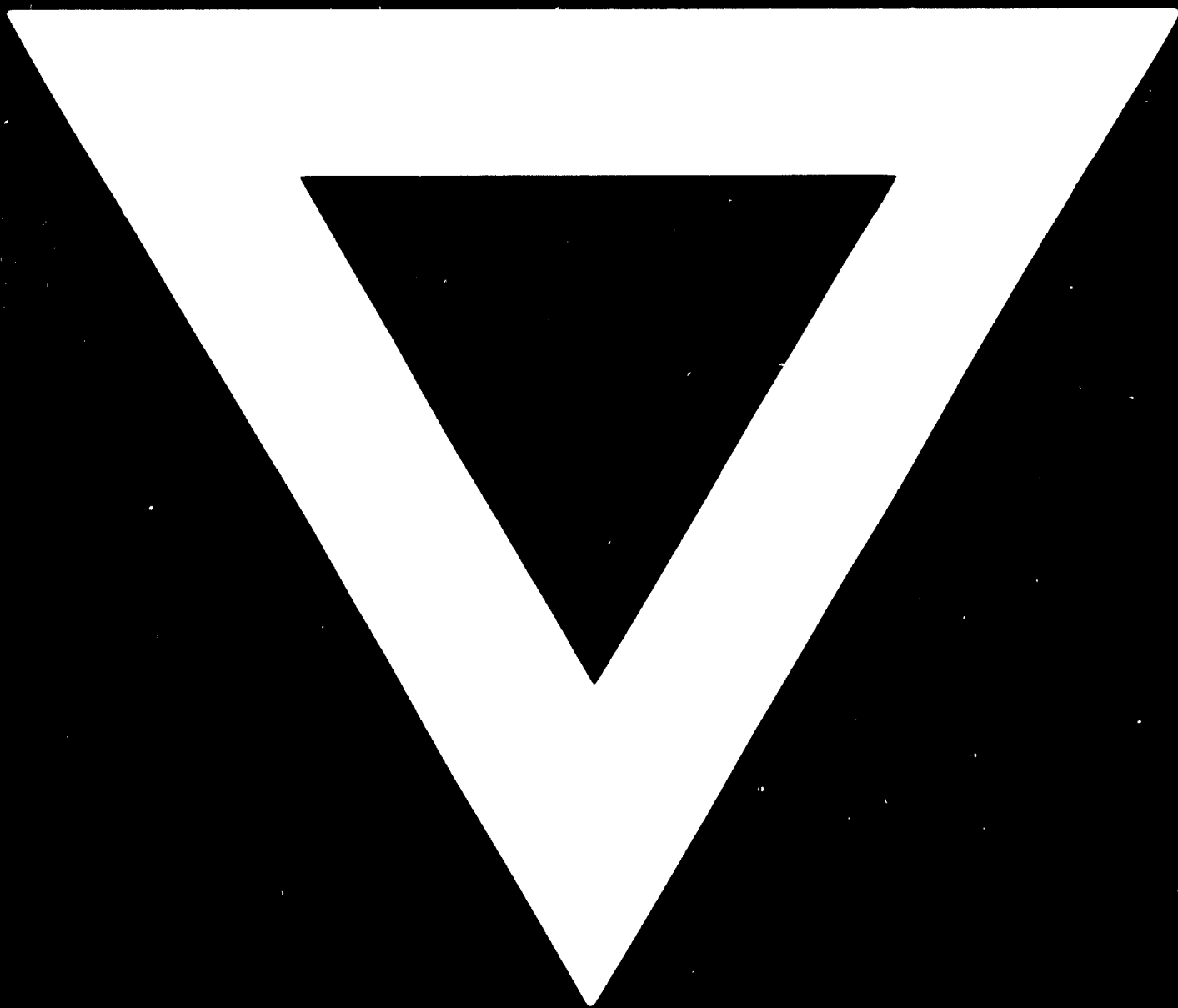
The unit depreciation of productive assets (depreciation value for each unit produced) will be multiplied by the number of units produced in the period in question, e.g. one month, and the result will be charged directly. But in this case, the depreciation becomes a variable cost!

This conception of depreciation in cost accounting enables us to overcome the difficulties presented by certain special cases where, for example, production is low or nil during the period in question. The unit depreciation figure in question will have to be revised for each period considered. If the market value can be regarded as changing little over a period of several months, or even a year, except in the event of unforeseen obsolescence, the same cannot be said of the expectation of production, which can diminish considerably as a result of wear or deterioration, or increase as a result of repairs or improvements.

We may note, finally, that the relationship between the market value and the occurrence of deterioration or the introduction of improvements remains rather theoretical.



B-557



81.08.21