Name:

Crop Diversification Index (CDI)

Definition:

Crops diversification allows the diversification of the risks of farm:

- Different crops require different management systems and therefore the human and technical resources are optimized.
- The root system of crops is different and therefore it improves the efficiency of soil nutrients
- Pests, diseases and weeds are easier to control because planting seasons and susceptibilities are different

Calculation method:

The method proposed by Malik in 2002, derived from the calculation of the Herfindahl index, is used.

The Herfindahl index (H) is defined as the sum of the squares of crop ratios and it is a measure of crop concentration.

$$H = \sum_{i=1}^{n} P_i^2$$

where P_i Is the proportion of area occupied by the crop i

$$P_i = \frac{A_i}{\sum_{i=1}^{n} A_i}$$

A_i is the area of the crop i
i Is each of the crops (1, 2, 3,…..)

Crop Diversification Index is CDI= 1 - H

Interpretation:

Crop Diversification Index is directly related to diversification. Its values range between 0 and 1. The value 0 indicates monoculture and its increase means the increase in the number of crops and their proportion regarding the crop surface.

Information source:

The different crops surface data are obtained through a survey to *farmers.*

Bibliography and references:

Kiru Sichoongwe, Lawrence Mapemba, Gelson Tembo & Davies Ng'ong'ola (2014). The Determinants and Extent of Crop Diversification Among Smallholder Farmers: A Case Study of Southern Province Zambia. Journal of Agricultural Science; Vol. 6, No. 11; 2014

Malik, D., & Singh, I. (2002). Crop Diversification-An Economic Analysis. Indian Journal of Agricultural Research, 61-64.