



Effective and Efficient Farming Technologies

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JOHN DEERE

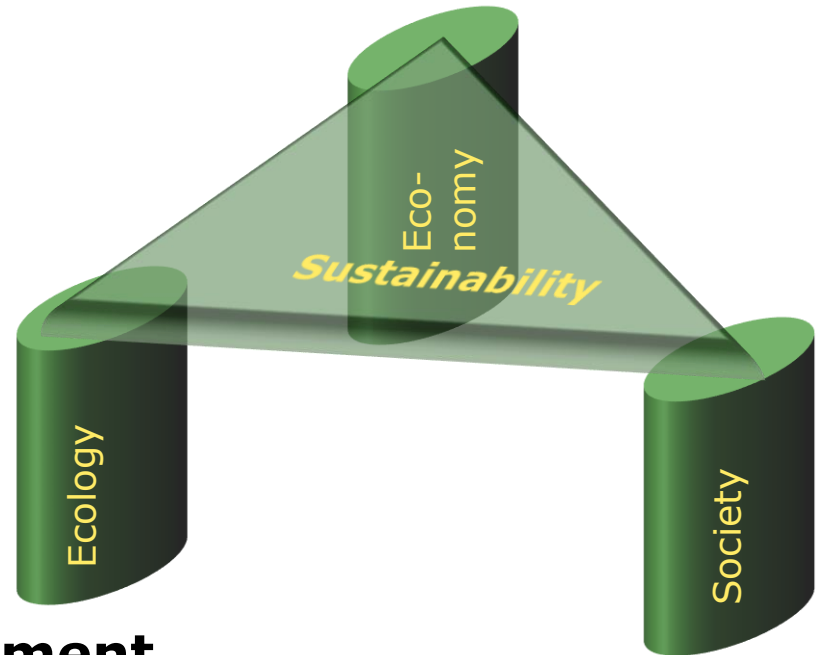
Effectiveness and Efficiency Definitions

Effectiveness is getting things done or the capability of producing a desired results.

Efficiency is the ability to avoid wasting material, energy, efforts, money and time in doing something.

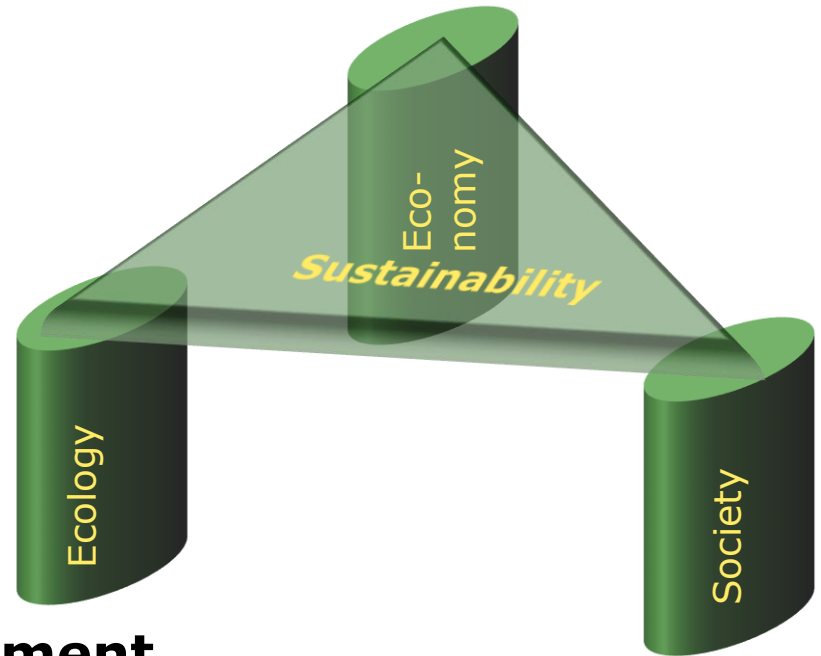
$$\text{Efficiency} = \frac{\text{useful output}}{\text{total input}}$$

Guiding Principles for Sustainable Agricultural Production Systems



- 1. Minimize Resource Investment**
- 2. Circularize Unavoidable Waste**
- 3. Conservation Practices**

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Vision : Decentralized Energy Supply in Rural Areas

Methanisation



New Holland Methane Tractor



Vision : Decentralized Energy Supply in Rural Areas

Electrification



Electrical Tractors



Electrical Implement



Vision : Decentralized Energy Supply in Rural Areas

Pure Plant Oil Machine



From Horse Feeding to HP Fueling

Diesel consumption of German agricultural sector

1.6 Mio t = $7 \cdot 10^{10}$ MJ

→ 1.5 – 1.8 Mio. ha

Maximum possible area for rapeseed:

1.8 Mio ha per year.

(UFOP)

≈ 8-10% of cultivated area, but substitutes arable land for feed or imports

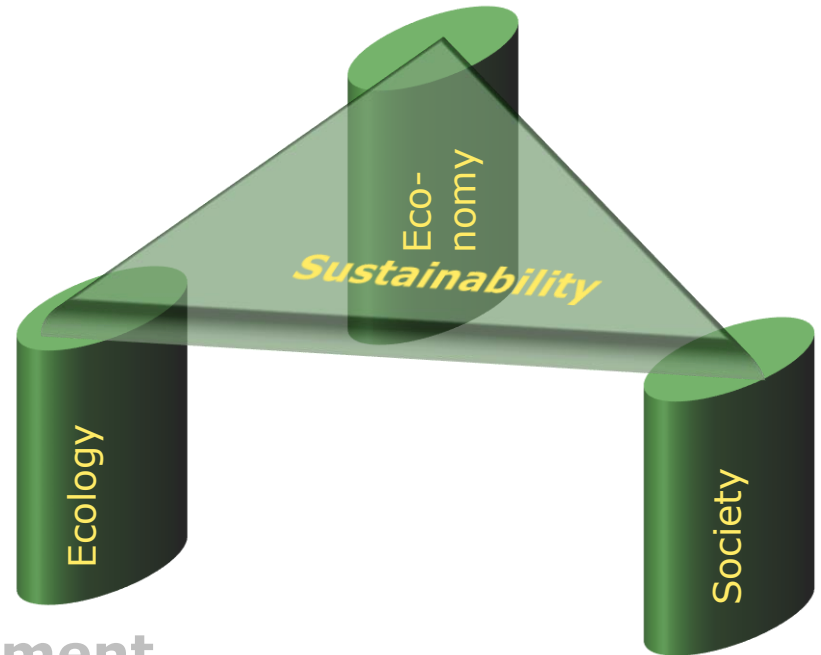


Charles Deere demonstrating a walking plow

Vision : Decentralized Energy Supply in Rural Areas



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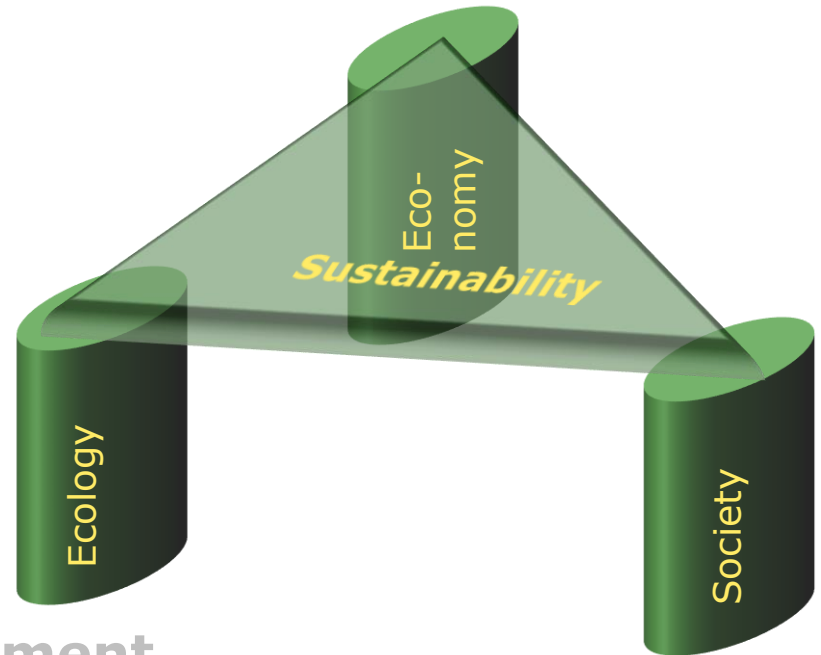
Advanced Manure Application Equipment



In-Field Straw Pelleting Machine – Krone Premos



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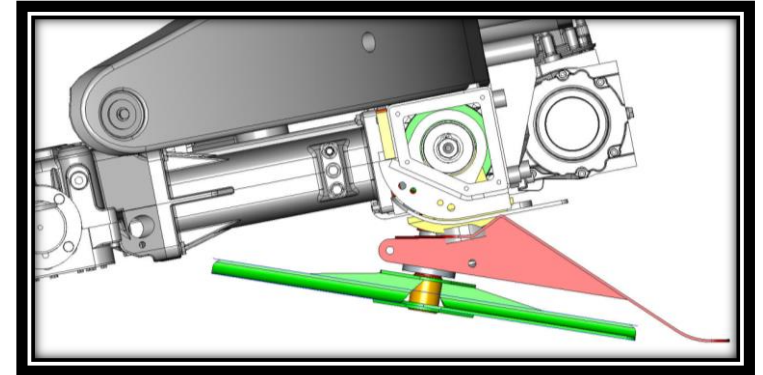
Mars EU Project: AGCO Xaver Robot



Active Implement Guidance



StalkBuster - Kemper

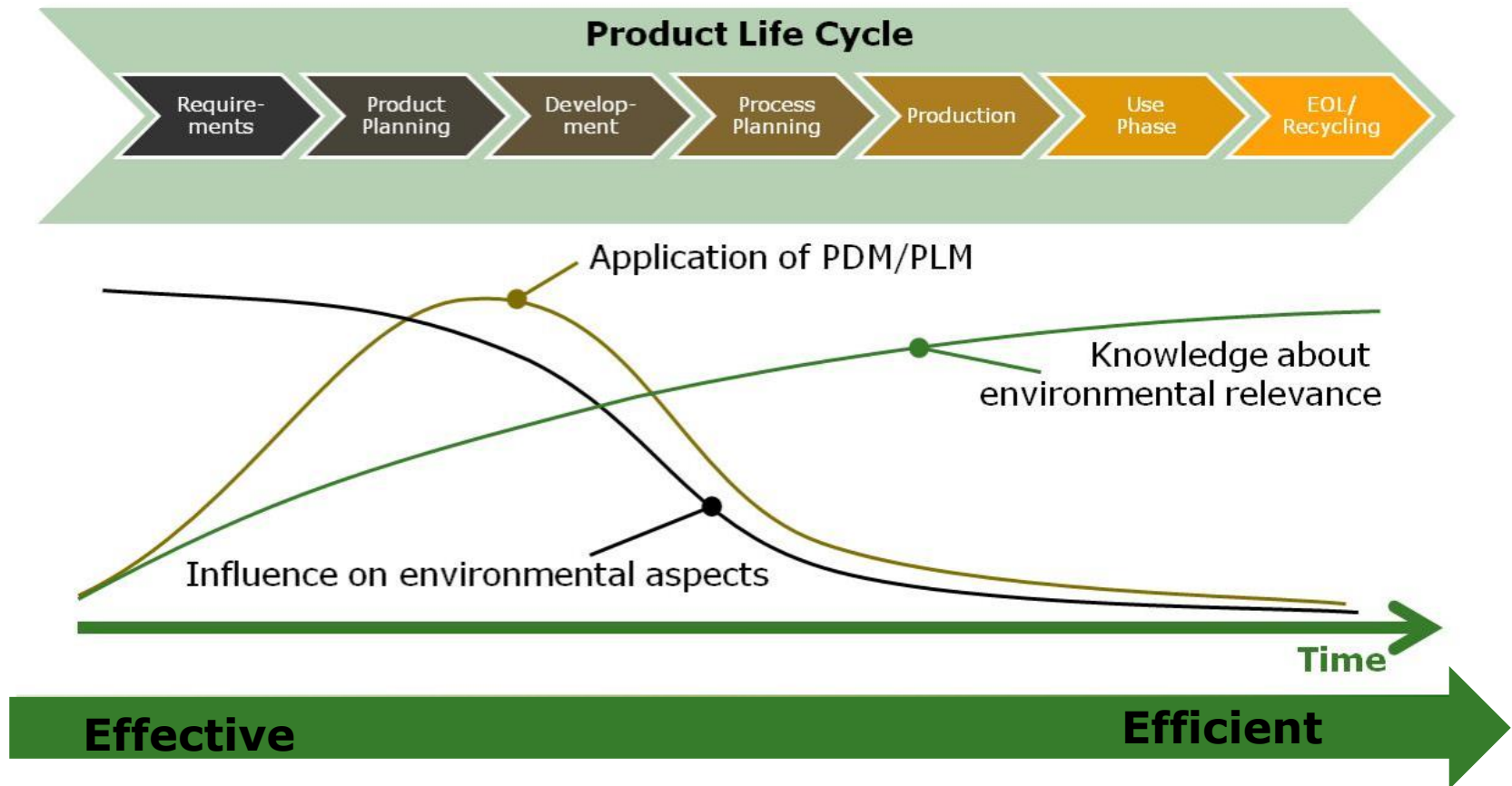




Road is paved with obstacles

Effectiveness and Efficiency

Product Life-Cycle Management (PLM)



Together we can create efficient farming technologies



“un pour tous, tous pour un”

A. Dumas, the 3 Mousquetaires



JOHN DEERE