

Case study maize/rice bean intercropping

Kham district, Xieng Khouang province



Current cropping system & problems

Maize mono-cropping, herbicide, chemical fertilizer, motorized plowing



Market volatility, prices decreasing

No fertility restitution: loss of soil fertility

Pollution caused by herbicide

Health problems caused by herbicide

Future climate change uncertainty:

- Increase of temperature (decrease of crop cycle duration)
- Increase of rainfall (erosion risk increase)

Soil degradation
Weeds invasion
Decreasing yield
Herbicide use

What kind of agroecological cropping system can be the solution?

Agroecological cropping system: Maize + rice bean intercropping

Leguminous crop to maintain fertility

Cash crop in intercropping: but no market?

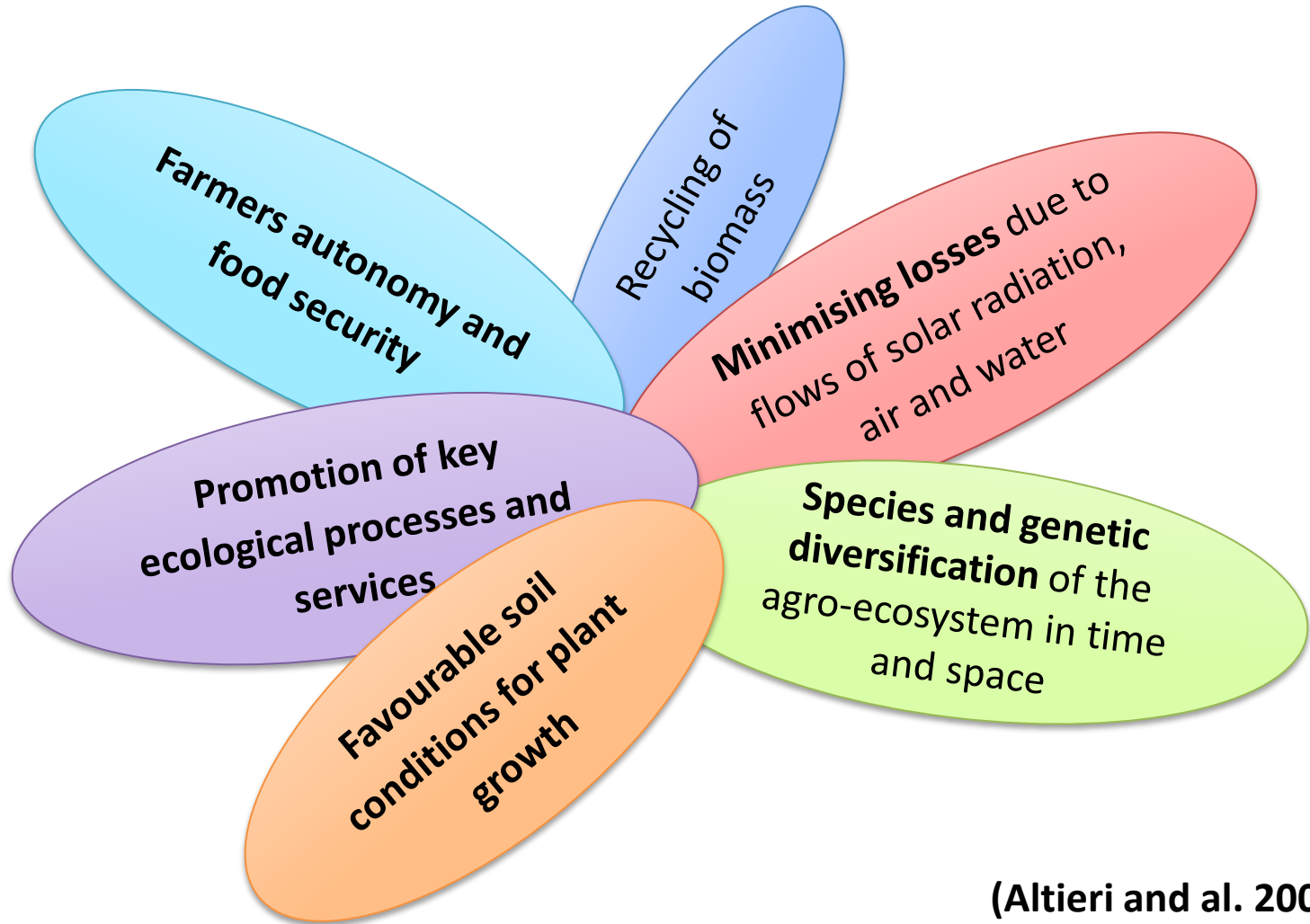
Increase diversity of income

Pb of grain storage

Rodents invasions, cattle management at the territory scale



How to assess agroecological performances of this system ?



(Altieri and al. 2005)

Questions

How do we measure **success** in agroecology?

What **scale** of analysis?

Cropping system? Farming system? Territory?

What **impacts and performances** do we have to assess?

Do we need **ex-ante** assessment or **ex-post** ? **Participatory** or **expert**?

How interpret indicators?

How to **combine indicators** according to the different dimensions of sustainability?