

Polyculture

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An Approach to Sustainable Farming



Monoculture: a single crop planted over a wide area.

- Used excessively on American farms, especially on corn and soy farms.

Polyculture: a multitude of different crops grown on a given expanse of land, either through crop rotation or planting rows of different crops side-by-side.

- Uses nutrients, space, and energy in a balanced manner.
- Increases self-reliance, food security, and economic growth.

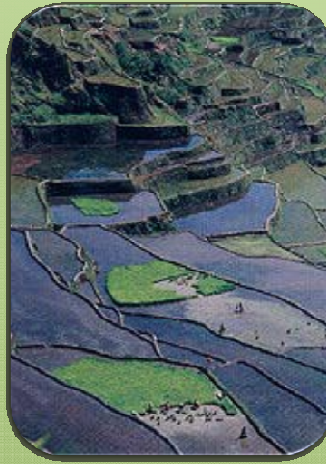
Polyculture vs. Monoculture

Disadvantages of Monoculture:

- Depletes soil of its nutrients and water content.
- Eliminates soil microorganisms.
- Increases soil erosion.
- Reduces species diversity.
- Contaminates water.

Benefits of Polyculture:

- Increases biodiversity.
- Enhances soil health.
- Eliminates fossil-fuel fertilizers and pesticides.
- Promotes clean water run off.
- Reduces disease severity.
- Increases yields.
- Decreases soil erosion.
- Sequesters carbon.



Proposal

- Introduce polyculture to mainstream farming.
- Encourage farmers to transition to polyculture farming.
 - Inform farmers of the benefits.
 - Promote and provide training.
- Inform consumers of the benefits of polyculture farms.
 - Encourage consumers to buy polyculture products.
 - Recognize corporations that buy polyculture products.

Mechanisms and Solutions

Principles to Consider:

- Mimic the structure of natural vegetation.
- Use native perennial plants.
- Plant compatible species.
- Maximize natural processes.
- Place crops to ensure optimal interaction.

Farming Methods:

- Crop rotation: growing dissimilar crops sequentially on the same field.
- Multi-cropping: the cultivation of two or more crops in the same area simultaneously.
- Inter-cropping: the planting of smaller crops between the spaces of the larger crops.

Assessment

- Online survey:
 - Farmers:
 - Register with the Farm Bureau.
 - Record crop data online.
 - Inspectors:
 - Inspect crops twice a year.
 - Contact farmers if problems are present.
 - Post general data online.
 - Include survey at marketplace to compare with generalized data.
- University extension programs that aid farmers with new agricultural practices.

Promotion

- Inform farmers about the benefits:
 - Show farmers that polyculture farming provides higher yields to create incentive for them to transition to polyculture farming.
 - Distribute educational brochures through farming associations.
 - Arrange talks with successful local polyculture farmers to:
 - Facilitate transition to polyculture farming.
 - Offer a support network.
 - Act as a forum for queries.
- Inform consumers about the benefits:
 - Distribute brochures through farmers' markets.
 - Advertise online and through other media.

