technology
tourism
landscape

technik tourismus landschaft

Rural Innovation

Presentation for College of Agriculture, Year 4
Gyeongsang National University, Jinju
May 31st, 2017, 16:00

Source of map: travel.yahoo.com

The Austrian rural landscape

- Is the basis for agriculture and tourism

Experience from Rural Austria

PART 1: WHAT IS INNOVATION?

Innovation

Innovation

- Innovation:
  - production or adoption, assimilation, and exploitation of a value-added novelty
  - renewal and enlargement of products, services, and markets
  - development of new methods of production and management systems.
    - It is both a process and an outcome.

Source: OECD cited in Edison et al. 2013

Invention

- Any innovation relates to a previous invention
  - made by inventors
- Inventions relate to intellectual property (IP) rights
  - All private business affairs
- Inventions relate to a shift in private and societal attitudes and not to IP
  - Perceiving things differently than before
  - Reacting to a changed economic or social context

Intellectual Property [IP] (1)

- **Patents**
  - A patent is a form of right granted by the government to an inventor
  - An invention is her a solution to a technological problem fulfilling three requirements:
    - new,
    - not obvious
    - industrially applicable
- **Copyright**
  - Copyright apply to a wide range of creative, intellectual, or artistic forms, or works.
  - Copyright covers the form or manner in which ideas/information are expressed

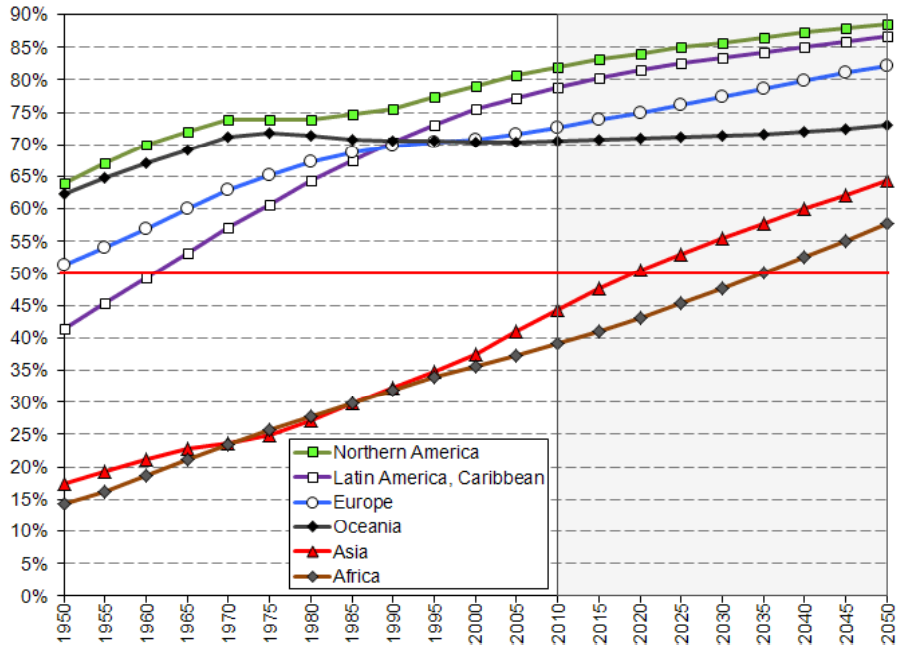
Intellectual Property [IP] (2)

- **Industrial design rights**
  - An industrial design consists of the creation of a shape, configuration or composition of pattern or color.
- **Plant varieties**
  - Plant breeders' rights to commercially use a new variety of a plant.
- **Trademarks**
  - A trademark is a recognizable sign, design or expression which distinguishes products or services

Rural vs. Urban

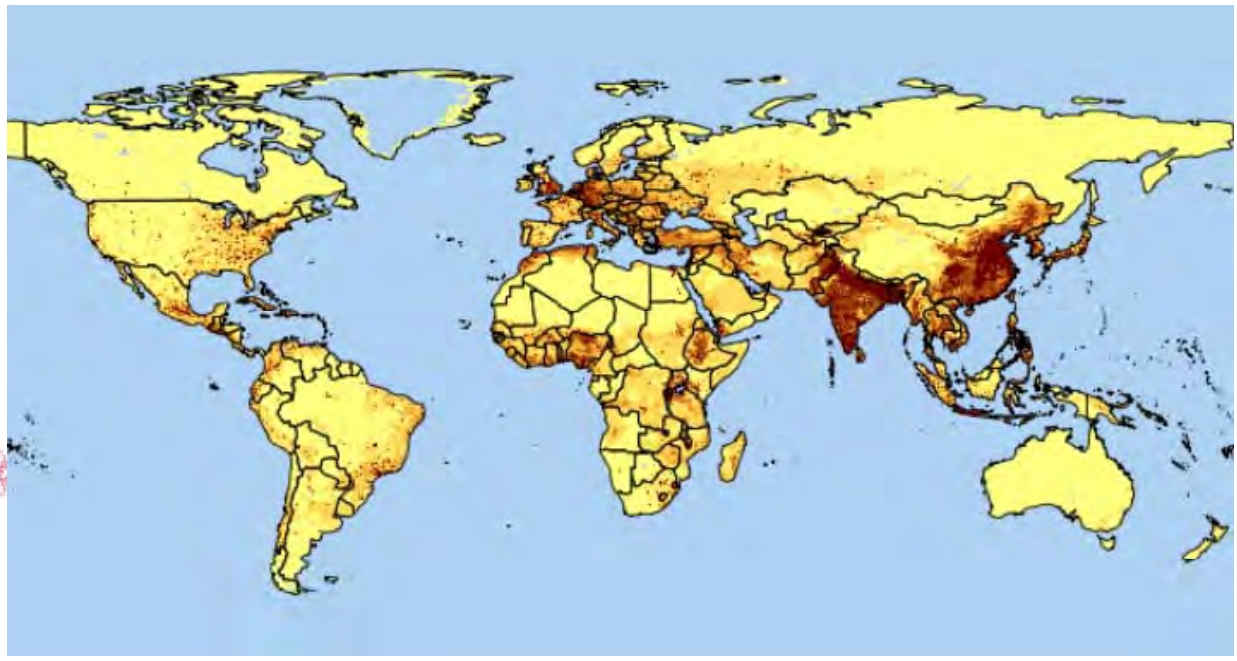
- The globe, continents, countries or regions are divided into rural and urban
- Rural population depends primarily on local resources
  - and the possible carrying capacity by improving them
- Urban population depends on regional and global resources
  - anticipated increase to 80% by 2050.

Urbanization of the World



Source: United Nations, Department of Economic and Social Affairs, Population Division: World Urbanization Prospects, the 2011 Revision. New York, 2012

Urban Areas cover perhaps 1.5 to 3% of land resources



Source: http://sedac.ciesin.columbia.edu/gpw/

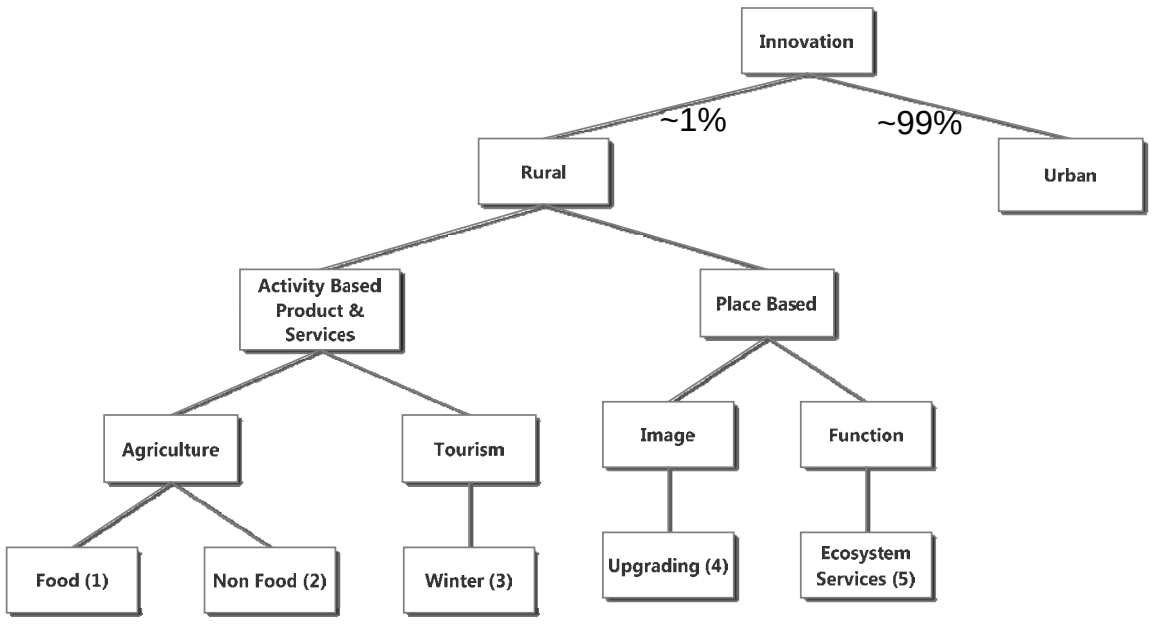
Rural Innovation Related to Human Activity: Trends in Austria and EU (i)

- Innovation related to food production
  - from agricultural machinery to smart farming
- Innovation related to non food production
  - from energy farming to resource renewal and purification
- Innovation related to services (=tourism)
  - from low cost to high tech

Rural Innovation Related to Rural Places: Trends in Austria and EU (ii)

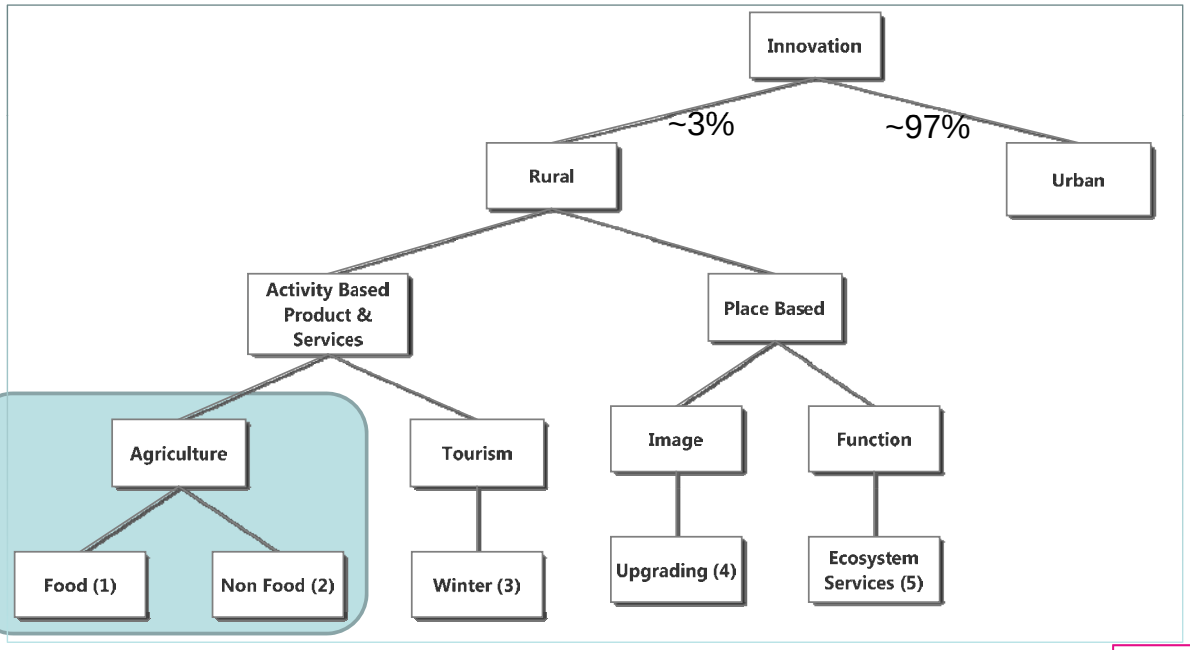
- Innovation related to the image of a place
  - from backward to authentic
  - from decline to village renewal
- Innovation related to higher value of available resources
  - from available at no cost to value ecosystem services

Rural Innovation



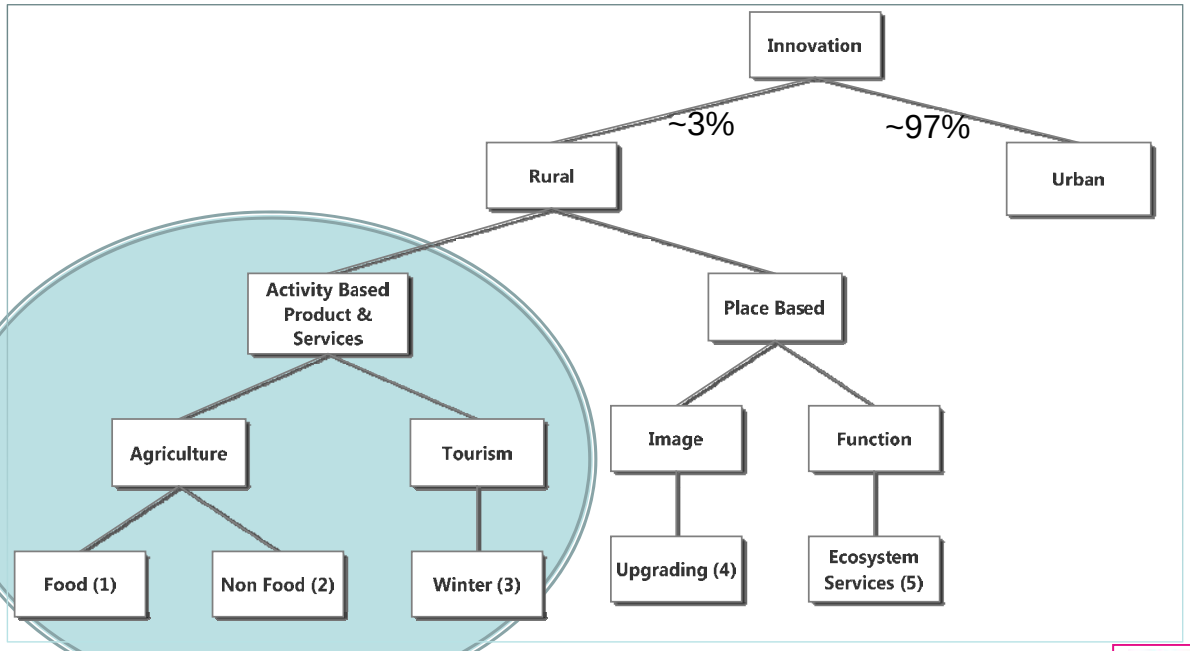
Source: Breiling 2017

Rural Innovation: Agricultural Machinery, Type 1 and 2



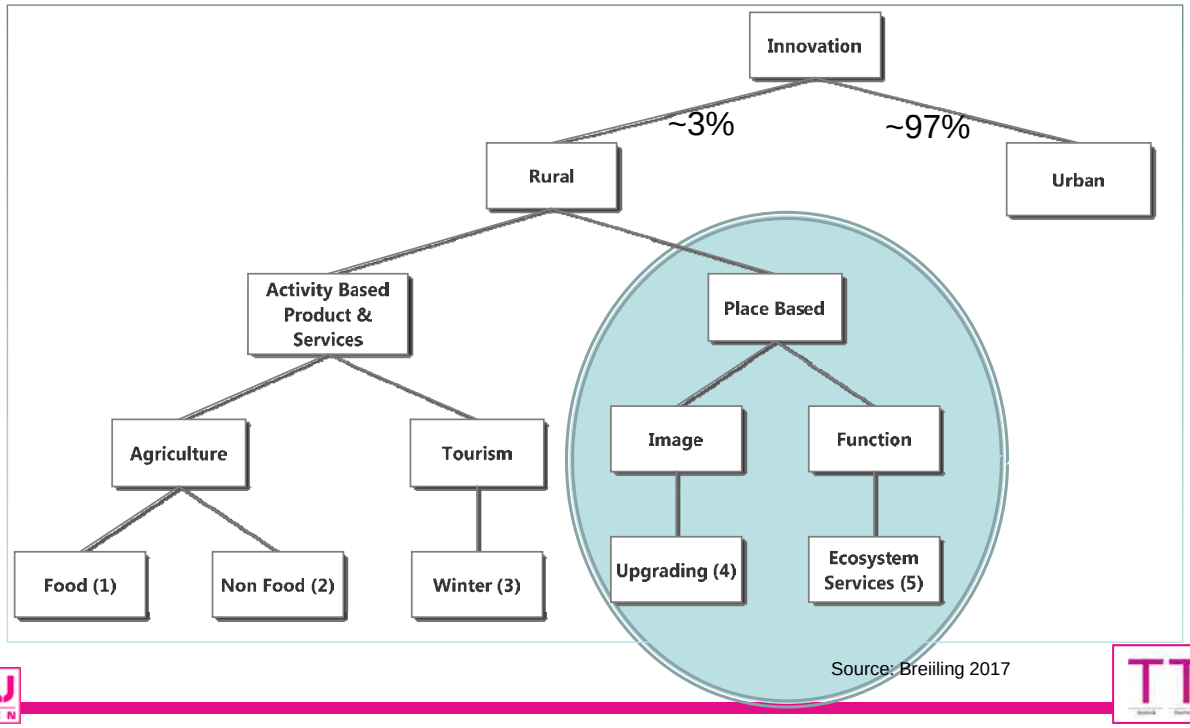
Source: Breiling 2017

Rural Innovation: Based on Technology Type 1, 2 and 3



Source: Breiling 2017

Rural Innovation: Based on Reassessment, Type 4, 5



Source: Breiling 2017

PART 2: EXAMPLES OF RURAL INNOVATION

Type 1 Rural Innovation: Food Production

Koreans promote „SMART FARM“

- Bring more high tech into agriculture and food production
- Bring more value into the agricultural system by introduction of new technologies
- Bring deep learning into the traditional agricultural systems and thereby improve them
- Search for means to counter challenges of climate change

Smart Pig Farm in Gimhae gun

Smart Horticulture in Hapcheon

Protected Horticulture Research Institute Haman Gun

Austria promotes

- Shift from conventional to organic farming
  - Usually a five years period is required
  - Austria has highest percentage of organic farms within EU -> 21%
  - There are 11 organizations that certify agricultural organic production method
- Create local trademarks
  - http://www.genuss-region.at
  - Particular food products of distinct origin within Austria
    - http://www.genuss-region.at/genussregionen/niederoesterreich/index.html
    - Food products from nine provinces have a seperate homepage
      - http://www.genuss-region.at/genussregionen/niederoesterreich/wachauer-marille-g-u/index.html
      - Food specialities from particular subregion

Rural Innovation Austria: Food production Example Wachau Landscape

Conference Participants “Vulnerability of Agricultural Production Networks and Global Food Chains Due to Disasters” investigating projects in Wachau Landscape, June 22nd, 2016

„Wachauer Wein“ Wine from Wachau Landscape

Since 1990 „Wachauer Beef“ as Trademark

„Wachauer Marille“ Apricot from Wachau Landscape

- A successful project
  - Prices are considerably higher due to the certificate of origin concept
- In 2016 fall out of entire harvest due to late spring frost
  - Enormous damage

Shifting from Conventional to Organic Food Production

- Certified methods of organic food production greatly increase prices

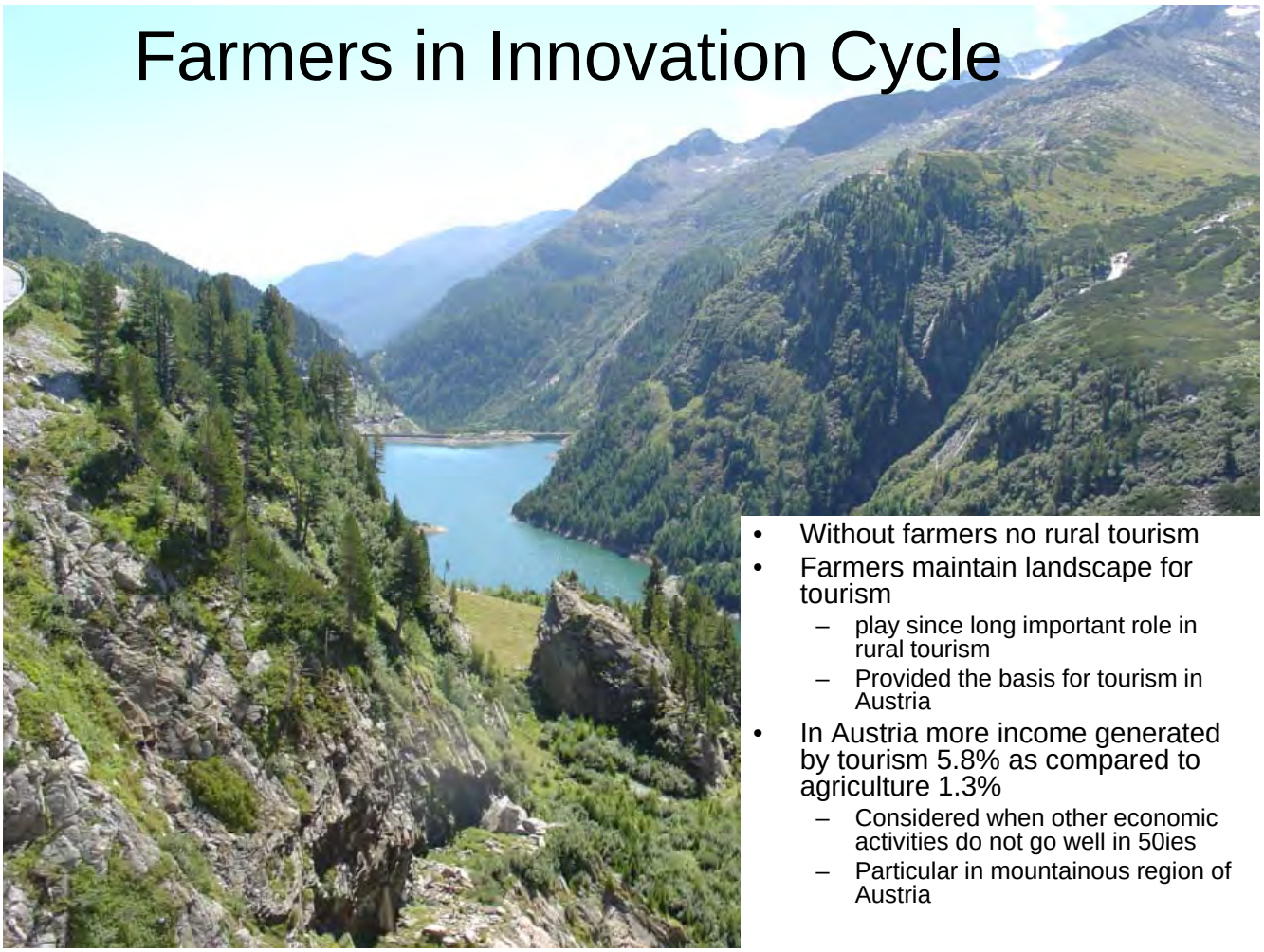
Type 2 Rural Innovation: Non Food Production

- Energy forest
- Biofuels
- Biomass projects
- Wind mills
- Biomass electricity plant
- Waste disposal
- Water purification

Type 3 Rural Innovation: Service Provision -> Rural Tourism

- Farmers stay on their farms to provide services for urban or foreign population that comes as visitors
- Tourism is example for this shift
  - In Austria we distinguish between
    - Summertourism from May to October
    - Wintertourism from November to April
  - Tourism creates three times the value of agriculture

Farmers in Innovation Cycle



- Without farmers no rural tourism
- Farmers maintain landscape for tourism
  - play since long important role in rural tourism
  - Provided the basis for tourism in Austria
- In Austria more income generated by tourism 5.8% as compared to agriculture 1.3%
  - Considered when other economic activities do not go well in 50ies
  - Particular in mountainous region of Austria

Type 4 Rural Innovation: Image Lifting of Place

- The entire place/village need to be regarded higher and to become more beautiful and economically more valuable
  - Village renewal
    - Elaborating measures to make infrastructure, houses, gardens, more beautiful or to emphasize the beauty of the place in a village settings
  - Bring actions to the village: More transactions between rural and urban
    - Volunteer work camps
    - Lively annual festivals „Kirchtag“
    - Artistic actions: Folk dance, Local skills demonstrations
  - Traditional heritage in the village
    - Farmhouses, churches
    - Fortresses
    - Historic gardens

Type 5 Rural Innovation: Ecosystem Services

- Management of marginally used lands needs to be higher economically evaluated as:
  - Climate protection
    - Carbon sink
  - Disaster protection
    - Floods, droughts, cyclones,
  - Filter protection of soils and vegetation
    - Purification of water
  - Keeping a high biodiversity
    - Often in dependence of agricultural management practice

CONCLUSION

Economic Growth Needs Continously Innovation

- If rural areas do not innovate they will vanish
- There is technical innovation and non technical innovation
  - Both are equally important for the future of rural areas
- The value chain increases greatly by innovation
  - Only if urban and rural innovation rates are in balance, further urbanization will stop

Situation Rural versus Urban

- Global income of rural areas will continously decline
- Rural innovation is a means to slow down, stop or even reverse this trend
- In another case agriculture may develop into an urban activity

Thank you for your attention!

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