Land Use Classification

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Outline

• Land cover vs. land use
• Major global LU datasets
• Structure and features of the proposed LU classification
• Some discussions
Land Cover vs. Land Use

• LC is the observed (bio)-physical cover of the earth’s surface. Such an observation can be made by the human eye, aerial photographs, satellite sensors, or simply existing maps.

• LU reflects the degree of human activities directly related to land and making use of its resources or having an impact (i.e. to produce products and benefits). LU requires field and ground information such as surveys and censuses.
Major Global LU Datasets

  - “Land” under “Resources”
  - “Area Harvested” under “Production”

- Decennial World Programme for the Census of Agriculture (WCA) since 1945.

- Global Forest Resources Assessment Programme (FRA) since 1946.

- “Global spatial database of sub-national agricultural land-use statistics” AGRO-MAPS
• FAO has collected number of units and areas of aquaculture facilities by
  – Type of grow-out structures: ponds and tanks, enclosures and pens, cages, raceways and silos, etc
  – Water types: freshwater, brackish water, and marine water and
  – Type of products: fishes, crustaceans, and molluscs

• Classification used is based on the agreement at CWP, the coordinating mechanism established in 1959 to agree on standard concepts, definitions, classifications and methodologies for fishery statistics.
Structure and features of the proposed LU classification

• Reflects the close relationship and integrative nature of the work on LU databases/datasets by various Departments and Divisions at FAO as discussed in the previous section.

• Provides a great flexibility in terms of application through its hierarchical structure.

• Establishes a linkage between itself with other major international classifications such as ISIC and CPC through the ICC.

• Integrates aquaculture and fishery land use including water bodies by applying consistent concept as agricultural and forest land use.
Some Discussions

• On one hand, it should adhere to the commonly agreed principles resulting from previous theoretical and empirical researches in this field; and on the other hand, it has to be rooted in the existing LU global statistical databases.

• The function of such a LU classification just like many currently used at the global level is mainly to serve as a correlation system through which land use classes from existing national systems could be correlated and global LU databases can be continuously maintained and developed.
Some Discussions (Cont’d)

- Irrigation is not included in the proposed LU classification due to two difficulties: One is conceptual and the other is practical one.
  - Irrigation is one of many “land use attributes” used to describe one feature or property of land use on a plot. Other attributes relevant to agriculture, for example, are land tenure, cropping systems, use of fertilizers, mechanization, soil conservation practices, commercial or subsistence orientation (Young 1994). Any of them can be added into the LU classification just as irrigation. Apparently, however, it is not feasible for a classification to accommodate all these attributes
  - at the same time Other difficulties concern the data available of the related information. At present, there is no summary data for the world total area of agricultural land use with the breakdown of irrigation in FAOSTAT.
Some Discussions (Cont’d)

• *Indicative Crop Classification (ICC)*
# Proposed LU Classification

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<td>53%</td>
<td>61%</td>
<td>8%</td>
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<td>Savannah/Grassland</td>
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Source: Center for Sustainability and the Global Environment [http://www.sage.wisc.edu/](http://www.sage.wisc.edu/)
Summary and Conclusion

• LU classification is important.

• The Proposed LU classification is a joint effort of three Departments at in charge of three areas of statistics: Agriculture, fisheries, and forestry.

• It is based on the existing major LU databases and experience of FAO.

• The Proposed LU classification is a common classification for the above three fields at the global level.