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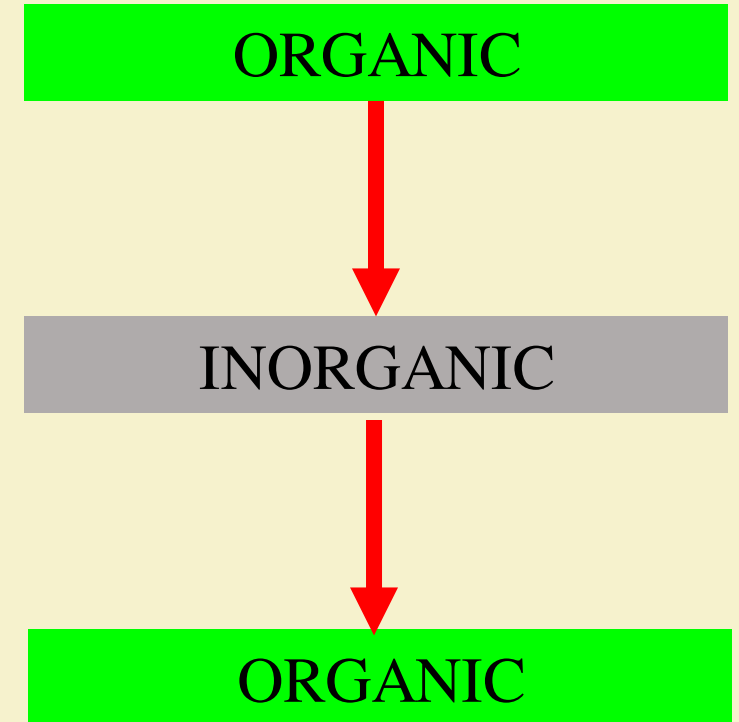
Organic Farming for Sustainable Agricultural Production

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Lectures 01 : Organic Farming: Introduction and Status

HISTORY OF FARMING

- 10,000 years ago agriculture started.
- Crop cultivation started with wheat, then barley, followed by some of the pulses.
- Farming system existed along with crop and animal components.
- Cultivation was absolutely organic and subsistence type.
- Thereafter due to population growth it shifted to intensive type (Maximisation of output)
- Environmental and health issues
- Again shifting to organic agriculture.



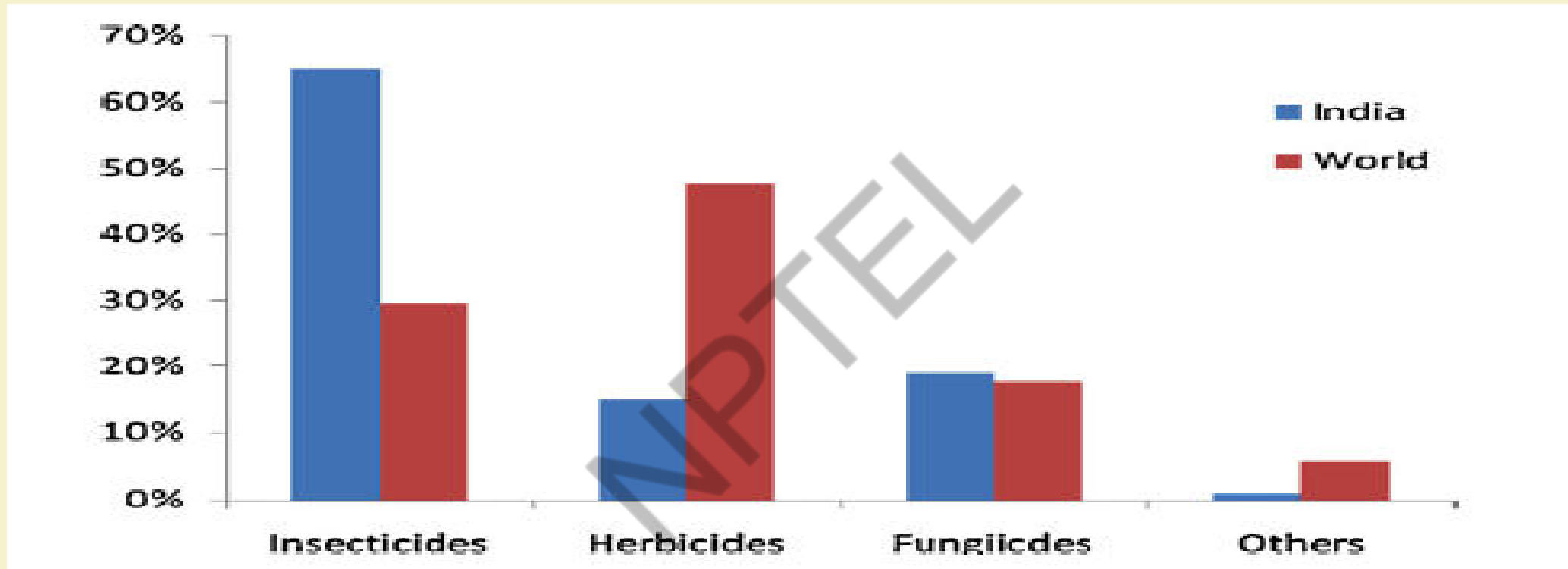
What is Organic Farming?

Organic farming is an ecological production management system that promotes and enhances biodiversity, biological cycles and soil biological activity. It is based on minimal use of off-farm inputs and on management practices that restore, maintain and enhance ecological harmony

or

Organic farming is a system which avoids or largely excludes the use of synthetic inputs (such as fertilizers, pesticides, hormones, feed additives etc) and to the maximum extent feasible rely upon crop rotations, crop residues, animal manures, off-farm organic waste, mineral grade rock additives and biological system of nutrient mobilization and plant protection.

Comparison of Pesticide Use in India and Worldwide

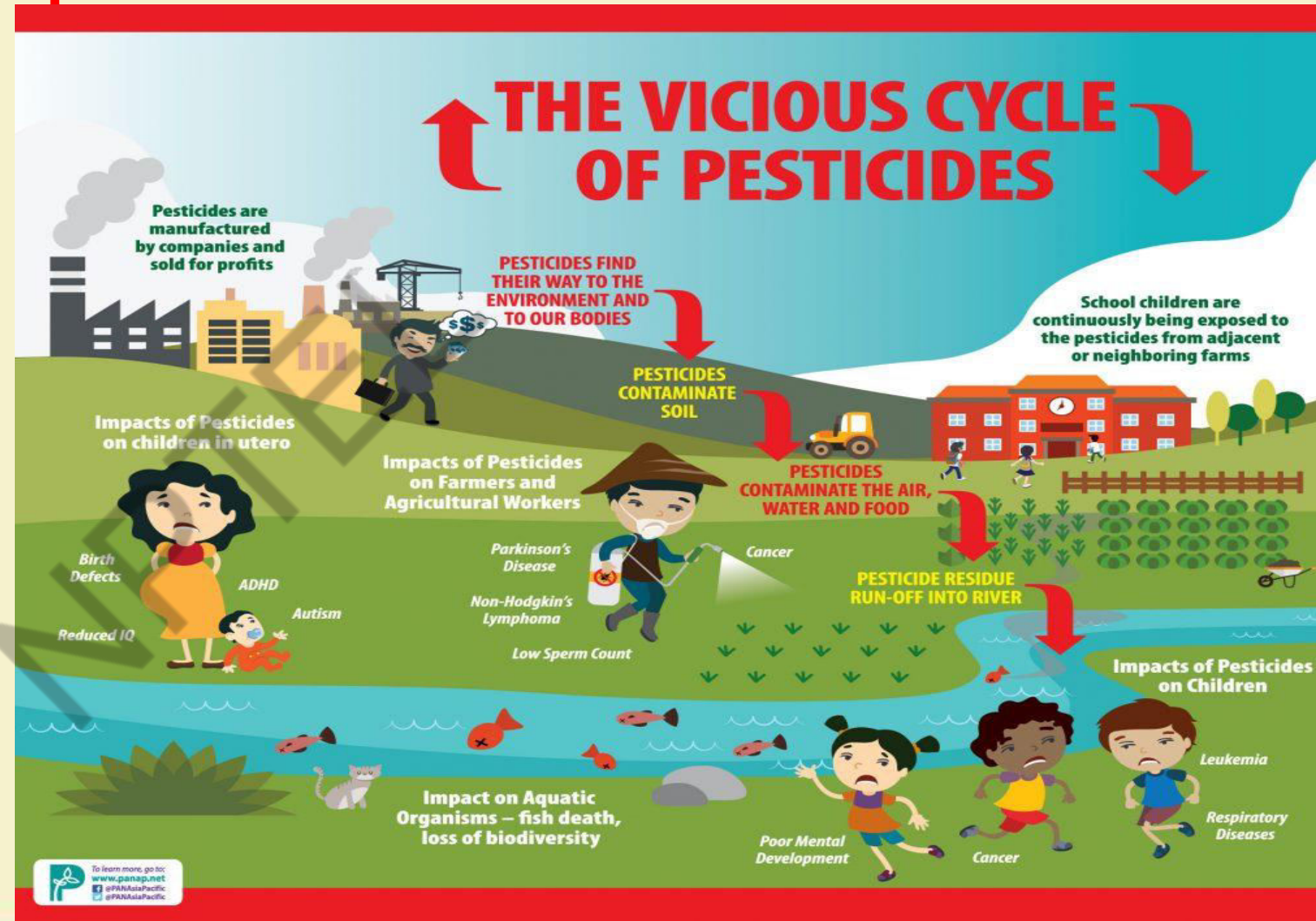


Source: Abhilash and Singh, 2009: Journal of Hazardous materials, 165 (1-3): 1-12



Effects of pesticides on human health

- They pose as endocrine disruptors
- **Respiratory tract irritation**
- **Parkinson's disease**
- Asthma
- Depression and anxiety
- Cancer, including leukaemia and **Non-Hodgkin lymphoma**
- Attention deficit and hyperactivity disorder

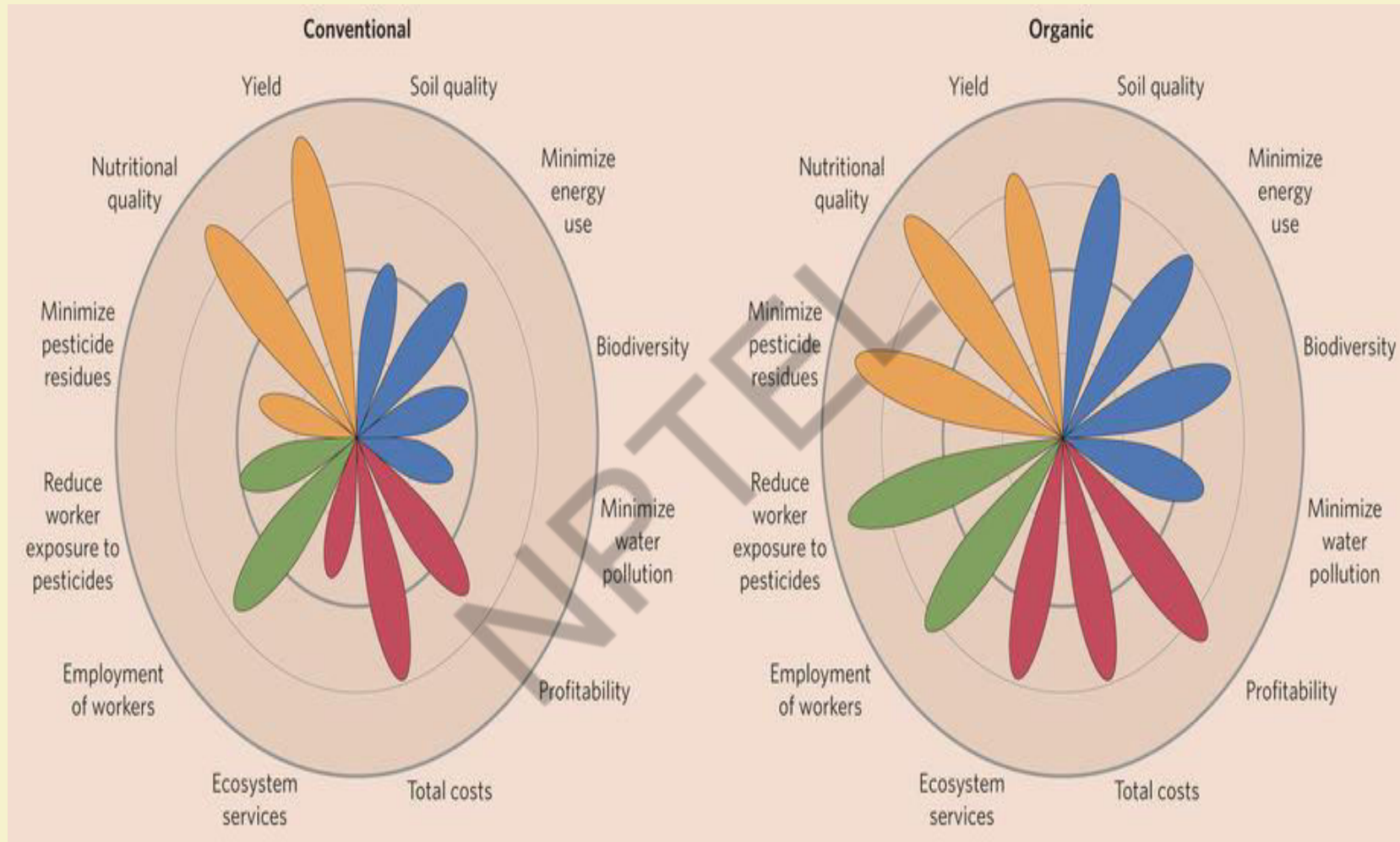


Average daily intake ($\mu\text{g person}^{-1}$) of organochlorine pesticide (DDT) in India

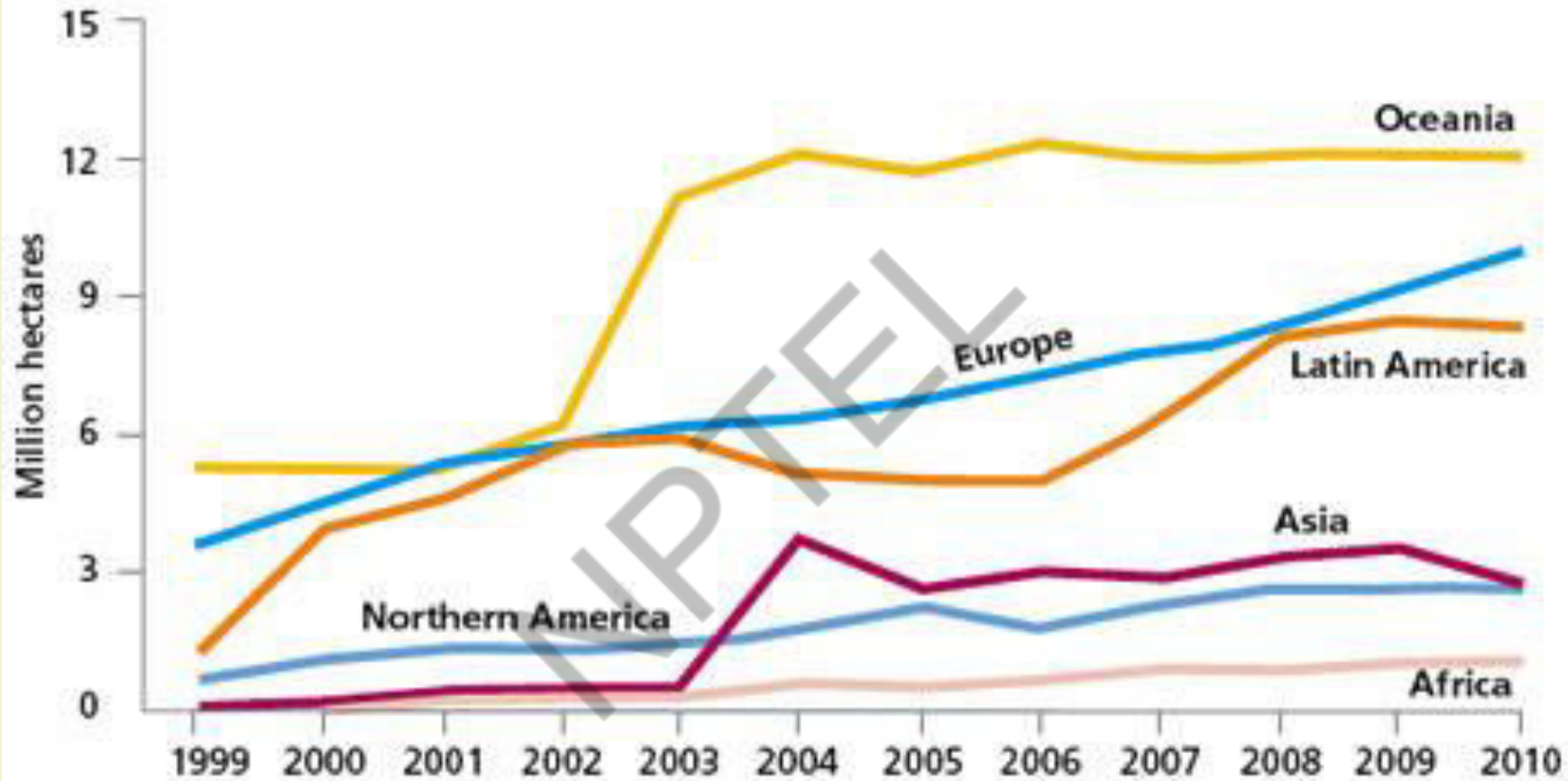
Location	Value
Punjab (2001) (vegetarian diet)	2.2
Punjab (2002) (vegetarian diet)	8.17
Punjab (2001) (non-vegetarian diet)	13.6
Punjab (2002) (non-vegetarian diet)	27.2

Source: Abhilash and Singh, 2009: Pesticide use and application: An Indian scenario, Journal of Hazardous materials, 165 (1-3): 1-12

Conventional vs. Organic Farming



Global growth of organic farming



Source: IFOAM (2010)

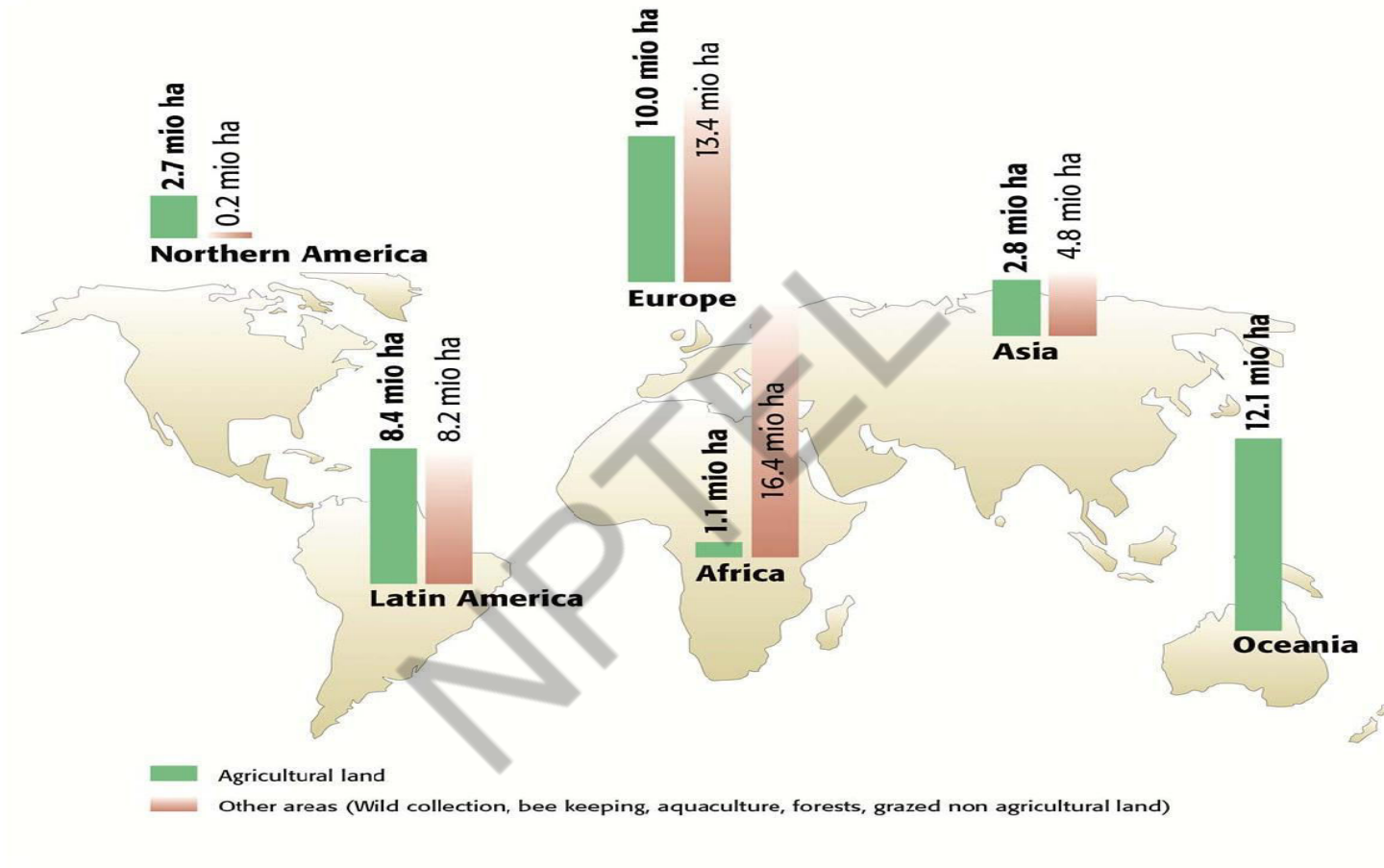


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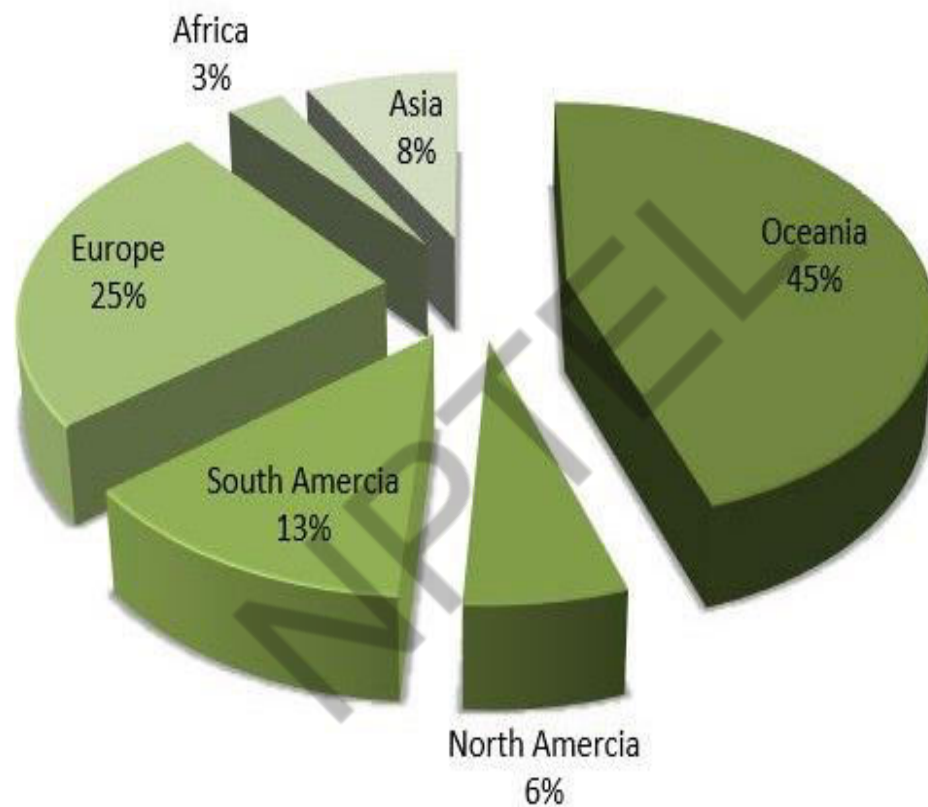


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Global Land Distribution



Global Share of Organic Farming



Source: World of Organic Agriculture IFOAM and FiBL outlook, ICREIR report, 2017



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