

# Scaling the Uptake of Agricultural Innovations: The role of sustainable extension and advisory services

**Scaling Agricultural Technologies  
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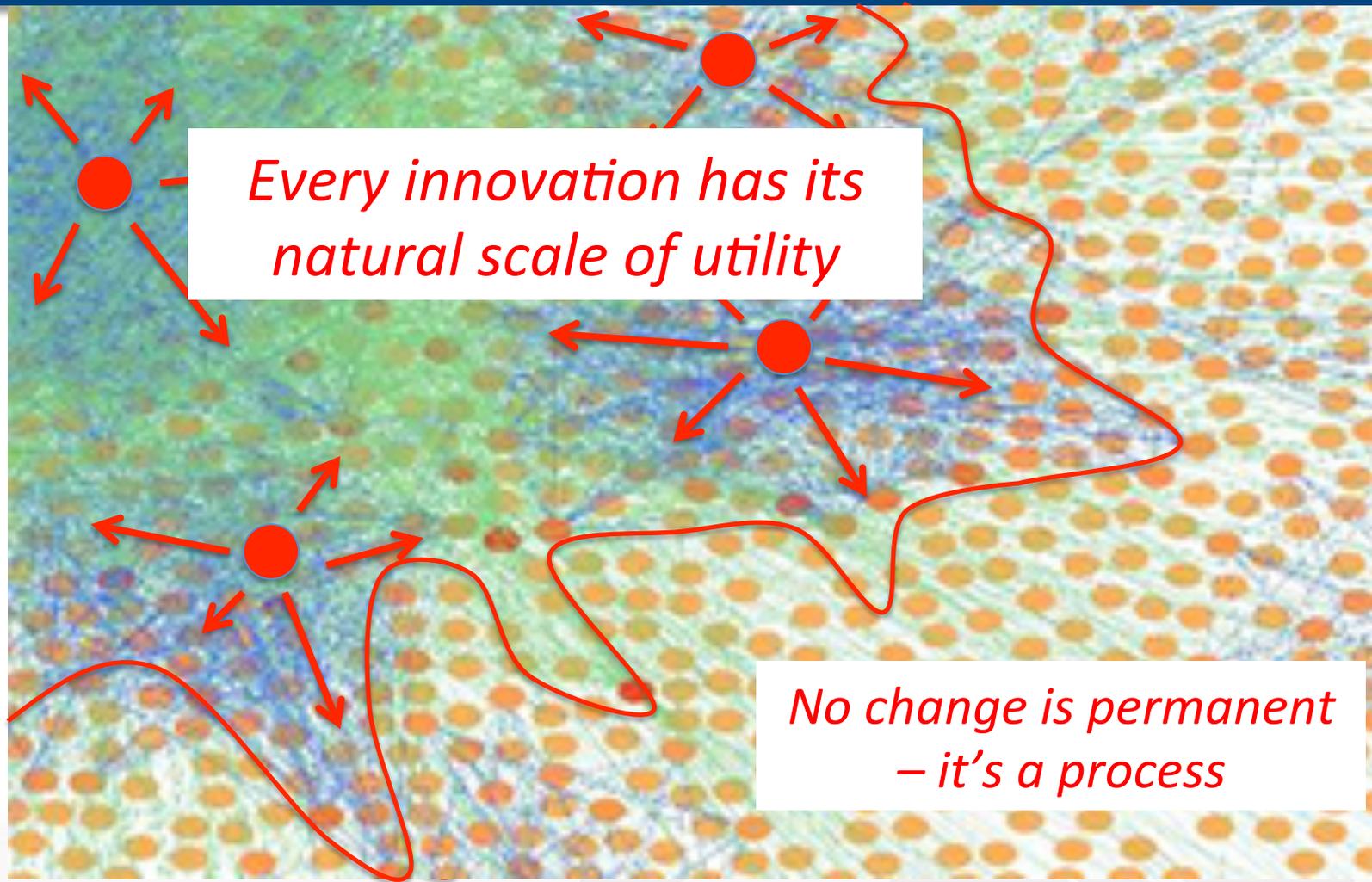
# Key Questions

- How do we define scale when thinking about the adoption of agricultural technologies and practices?
- How do we design for maximizing the potential up-take of agricultural innovations?
- How do we sustain the momentum of scaling behavior change once it is initiated?

# Value of Extension

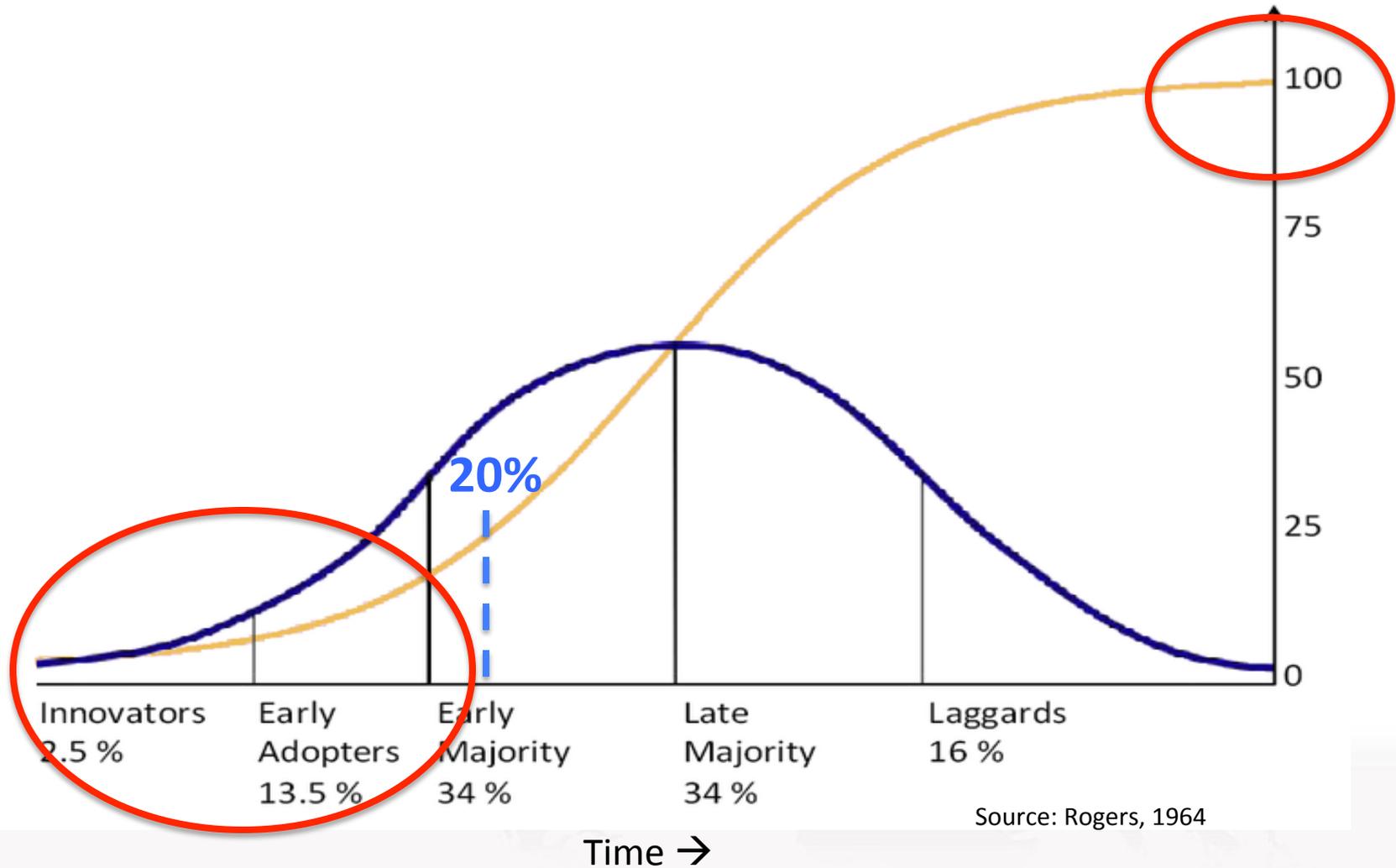
- Birkhauser, Evenson, & Feder report a range of rates of return, most between **13% to 80%**
  - Alston et al. estimate a median rate of return on extension of **62.9%** (focus: staple crops extension)
  - Keynan, Olin and Dinar studied farmer payments of bonuses designed to increase quality and responsiveness of extension
    - All the 17 farmer groups paid the bonuses and continued with the program the following year
- **High rates of return signal under investment**

# Essential Nature of Scale in Agriculture

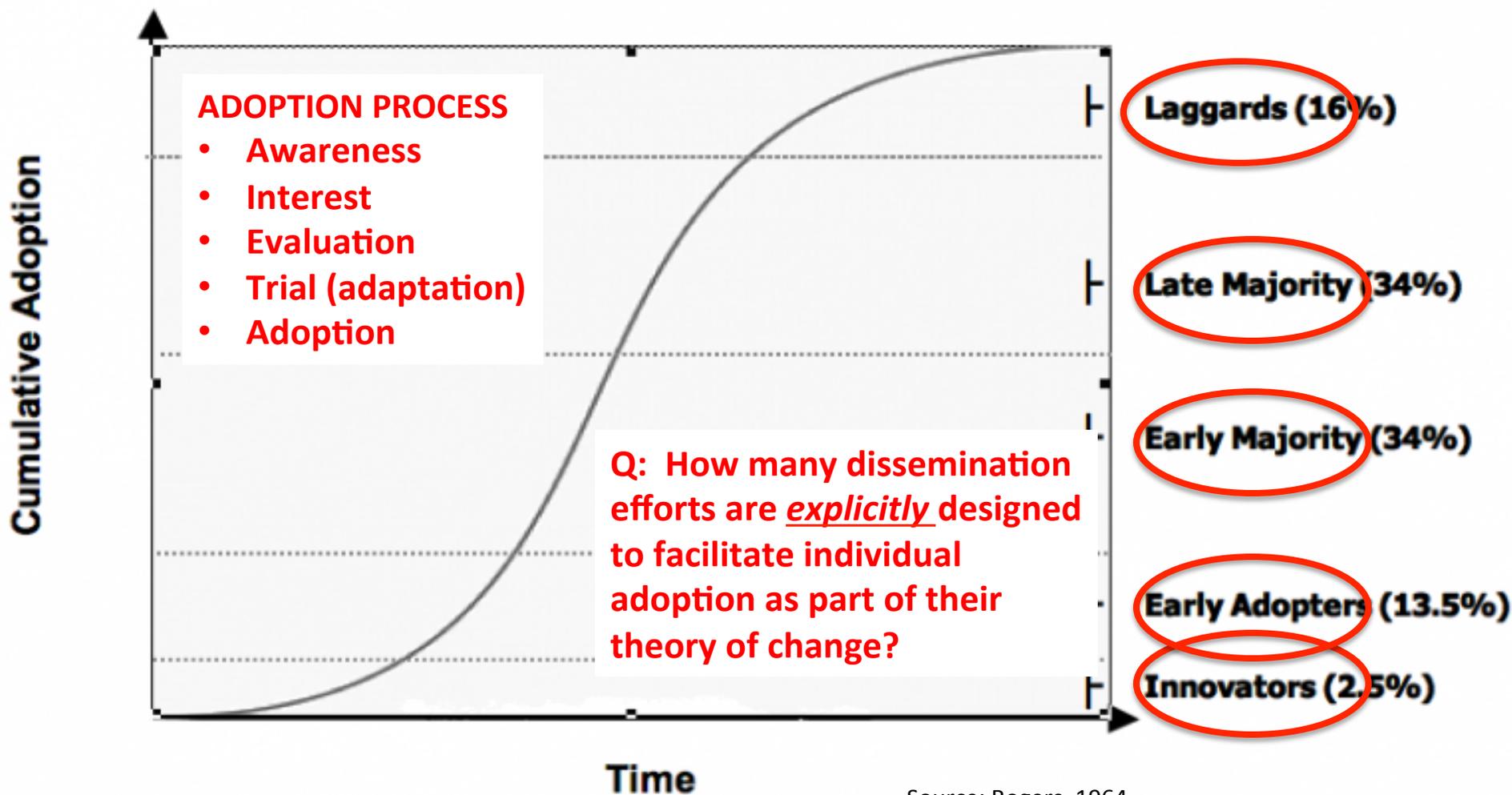


Source:[http://www1.eere.energy.gov/solar/sunshot/seeds\\_sandia.html](http://www1.eere.energy.gov/solar/sunshot/seeds_sandia.html)

# The Diffusion of Innovations

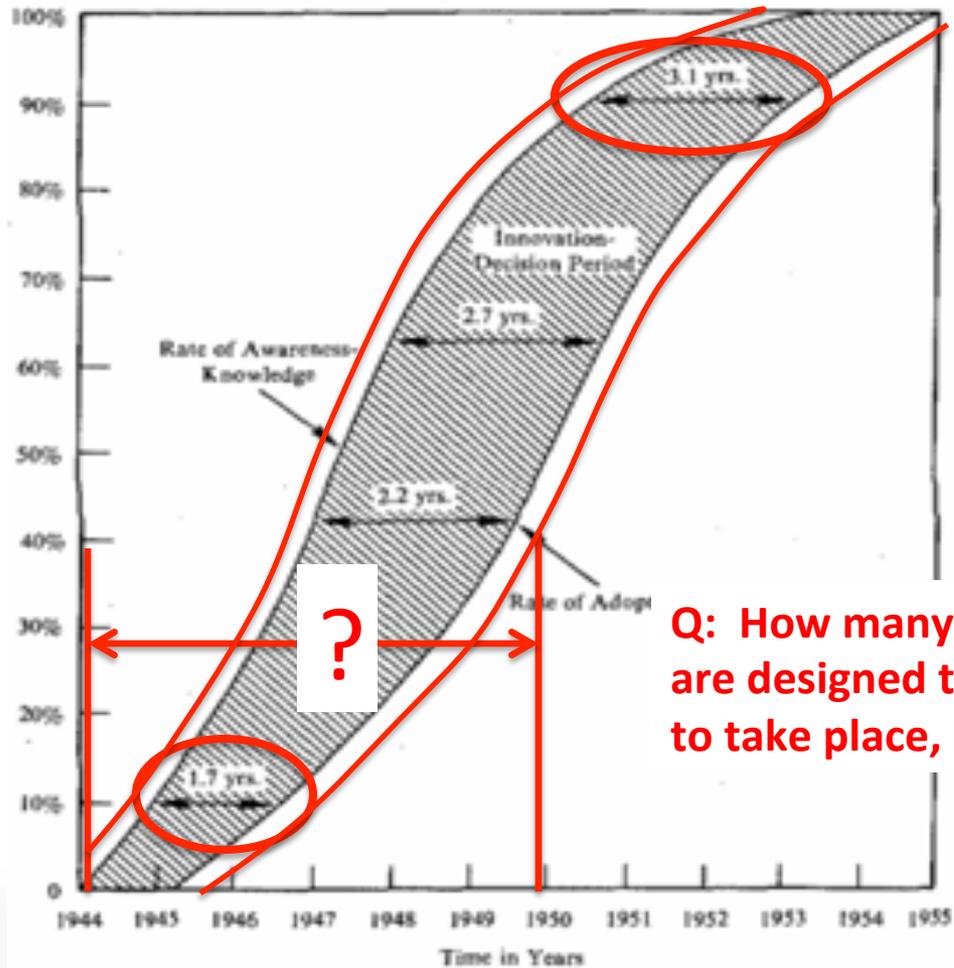


# Process of Adoption



Source: Rogers, 1964

# The Time Dimension

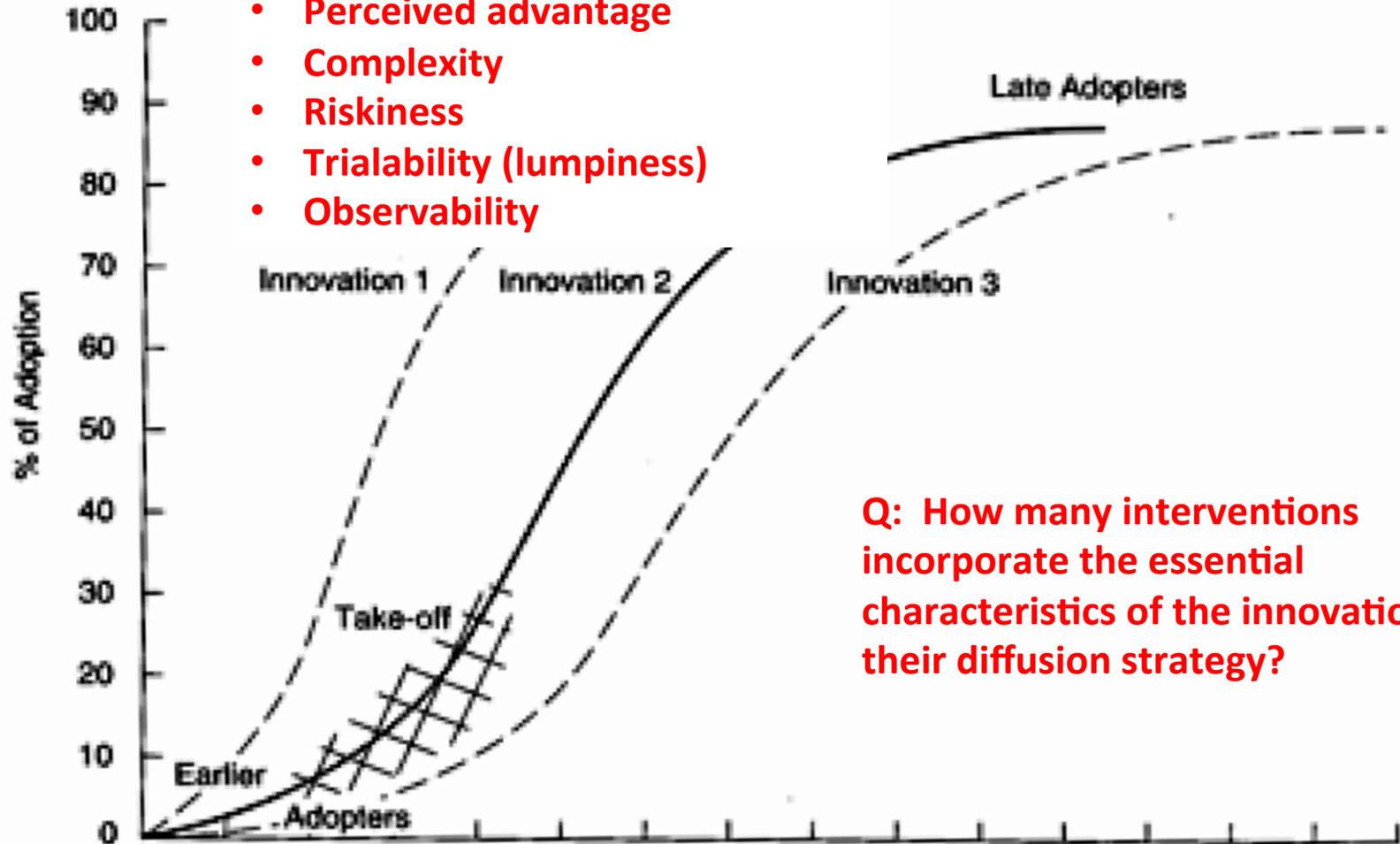


Source: Rogers, 1995

# Process of Diffusion

## INNOVATION CHARACTERISTICS

- Perceived advantage
- Complexity
- Riskiness
- Trialability (lumpiness)
- Observability



**Q: How many interventions incorporate the essential characteristics of the innovation into their diffusion strategy?**

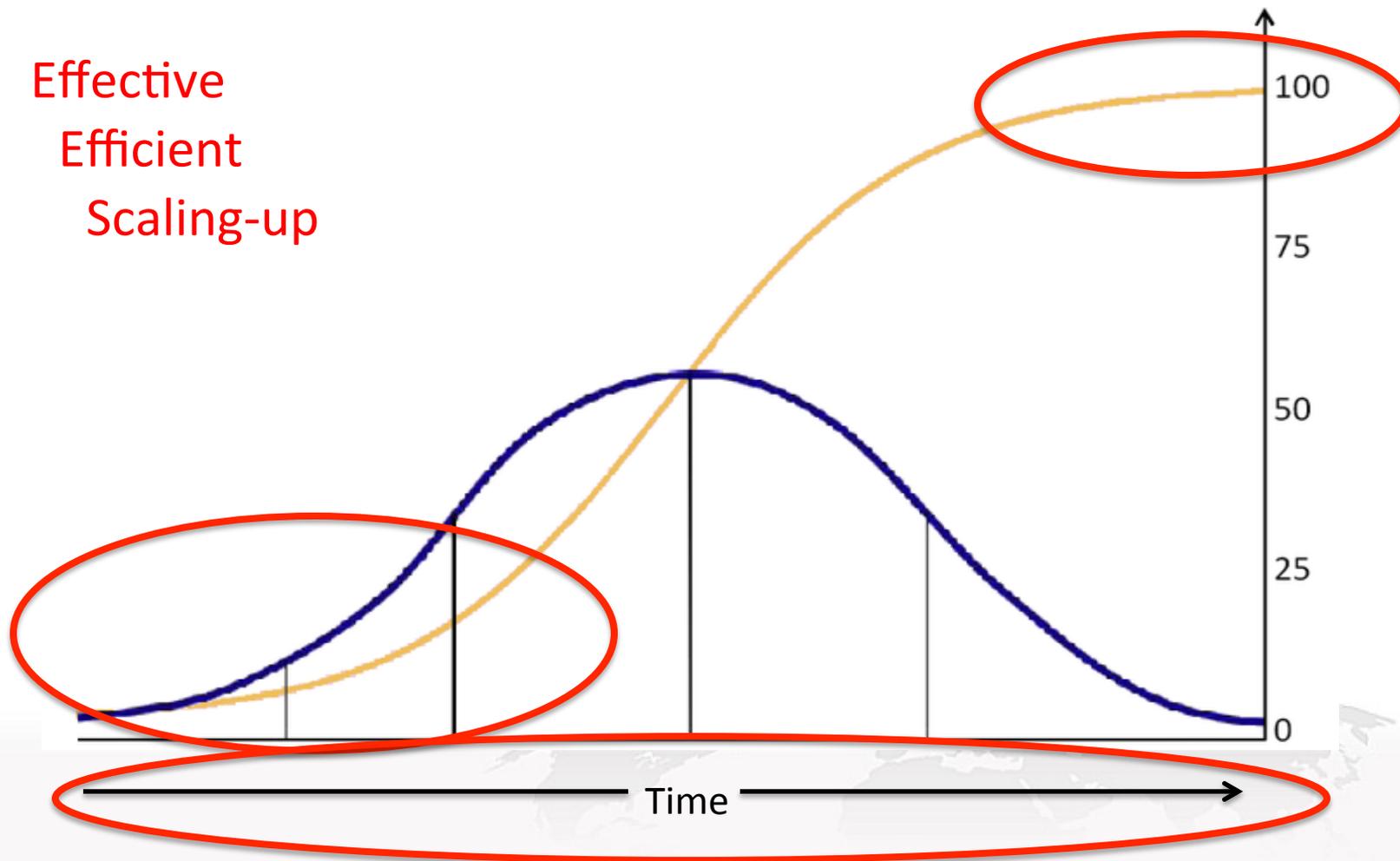
# Multiple Pathways of Getting to Scale

(modified from Birner and Anderson, 2007 and others)

Delivery Organization	Source of Financing				
	Public Sector	Private Sector Farmers	Private Sector Companies	NGOs/Donors	FBOs
Public Sector	Public sector extension	FFS provided by public sector	Private companies contract PS	NGOs contract PS	FBOs contract PS
Private Sector: Companies	Contracting	Fee For Service	Input linked ext., outgrowers	NGOs hire Private	FBOs contract Private
Private Sector: Individual Providers	Contracts, coupons	FFS, Private Service Providers		NGO hires agents	
Third Sector: NGOs/Contractors	Govt contracts	Farmers pay fees		NGO hires agents, free	
Third Sector: Farmer-Based Organizations	Public support, subsidies for extension	FBO hires agents, FFS		NGO pays agents employed by FBO	Agents hired by FBO providing service to members

# Learning Process Approach to Scaling

Effective  
Efficient  
Scaling-up



# Scaling the Update of Innovations through Sustainable Agricultural Extension

- Using what we know about human behavior to support behavior change;
- Using what we know about the diffusion of innovations to design interventions that reach their appropriate scale;
- Sustaining efforts long enough to allow ‘scaling’ to happen;
- Working at scale, to achieve impacts of scale;
- Investing in processes and relationships with potential to continually deliver new information, new options, new possibilities.

Not one or another...it's all, and more.

Applying what we already know is itself an innovation



# This presentation was given by:

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