

PROMOTING INNOVATIONS IN AGRICULTURE

*CHANGES IN PARADIGMS
AND MODES OF ACTION*

Michel PETIT
<petit@iamm.fr>

INTRODUCTION

- TOPICALITY OF SESSION: *“Involving End-Users in Research to boost Innovation”*
- KEYWORDS:
 - IMPACTS
 - SOCIAL RESPONSIBILITY OF SCIENCE
 - PARTICIPATORY METHODS IN RESEARCH PRIORITY SETTING AND RESEARCH OPERATIONS

INTRODUCTION (Contd)

NEED TO SIT BACK AND REFLECT

- LEARN FROM THE PAST

- MANY CHANGES IN AGRICULTURAL INNOVATION PARADIGMS AND MODES OF ACTION; YET ROBUST LESSONS

- NEED TO REEXAMINE THE 'FUNDAMENTALS'

- FROM CONCEPTS TO INSTITUTIONAL ARRANGEMENTS

- LIMITATIONS OF PURE ADVOCACY

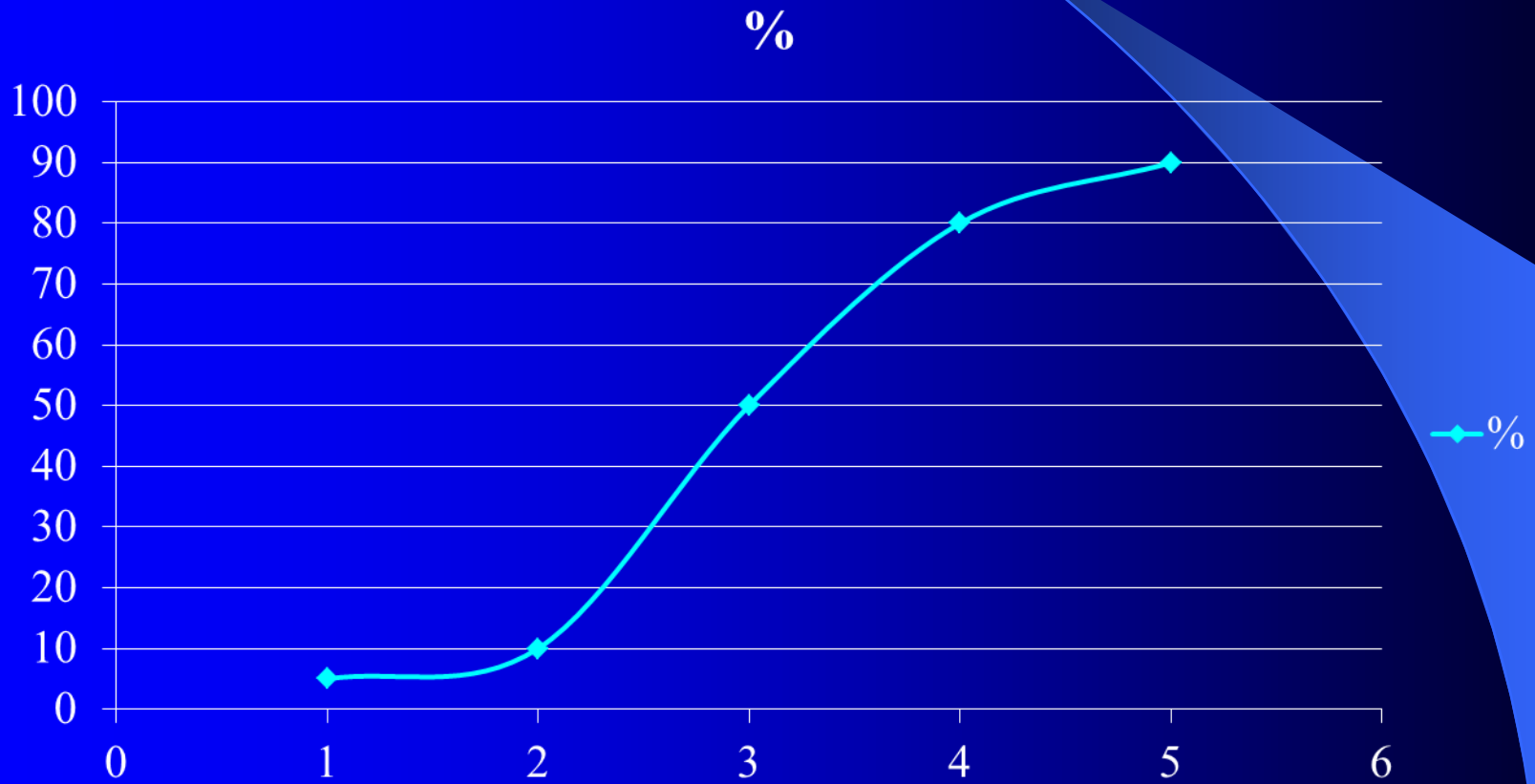
- INTELLECTUAL AMBITION

THE PIONEERS

(ANALYZING THE ADOPTION OF HYBRID CORN IN THE USA)

- THE LOGISTICS CURVE
- TYPOLOGY: ‘EARLY ADOPTERS’, ‘FOLLOWERS’, ‘LAGGARDS’, ETC.
- LIMITS: CONTROVERSY WITH ECONOMISTS (GRILICHES) AND LACK OF SOCIOLOGICAL ANALYSIS
- ROBUST LEGACY: THE LOGISTICS CURVE

THE LOGISTICS CURVE



FIRST MAJOR THEME: TECHNICAL PROGRESS

- POSITIVE ROLE IN COMPARATIVE STATIC:
 - BOOSTS PRODUCTIVITY
 - TRANSFORMS TRADITIONAL AGRICULTURE
- DYNAMIC PHENOMENON:
 - ADOPTION PROCESS
 - ROLE OF COMPETITION
 - ENGINE OF STRUCTURAL CHANGE

TECHNICAL PROGRESS (Contd)

- NOT EXOGENOUS
- UNDERPINS TRANSFER OF TECHNOLOGY ('TOT') PARADIGM
- IMPLEMENTATION BY THE WORLD BANK: « TRAINING AND VISIT SYSTEM »
 - ACHIEVEMENTS
 - LIMITATIONS

RE-ASSESSING TECHNICAL PROGRESS

- EXCESSES OF « PRODUCTIVISM »
- HETEROGENEITY AMONG FARMERS IS EXTREME
- RE-EXAMINATION OF THE RELATIONSHIPS BETWEEN KNOWLEDGE AND ACTION
- EXTENSION CONCEPT IS INSUFFICIENT OR INAPPROPRIATE

EMERGENCE OF AKIS PARADIGM

- MULTIPLICITY OF ACTORS INVOLVED IN INNOVATION PROCESSES
- COMPLEXITY OF ISSUES (TECHNICAL, ENVIRONMENTAL, AND SOCIAL)
- CONVERGENCE OF DIVERSE APPROACHES (WAGENINGEN, IDS, FSR, AGRARIAN SYSTEMS, PASTORALISTS, ETC.)

THE AKIS PARADIGM

- “innovation requires knowledge from multiple sources, including from users of that knowledge;
- -it involves these different sources of knowledge interacting with each other in order to share and combine ideas;
- -these interactions and processes are usually very specific to a particular context; and
- -each context has its own routines and traditions that reflect historical origins shaped by culture, politics, policies and power”. (Source: A. HALL)

THE AKIS PARADIGM (Contd)

- « An effective innovation system is an institutional setting, often network based, fostering interaction and learning among scientific and entrepreneurial actors in the public and private sector in response to changing economic and technical conditions »
- (WB, 2006)

IMPLEMENTATION OF AKIS

- WORLD BANK:

- *“Enhancing Agricultural Innovation: How to Go Beyond the Strengthening of Research Systems”*. (2006)
- *massive Investment Source Book* (2012)

- EUROPEAN UNION:

- *SCAR Report “Agricultural Knowledge and Innovation Systems In Transition – A Reflection Paper”*. (2012)
- *“European Innovation Partnership 'Agricultural Productivity and Sustainability”* (beg. 2012)

CONCLUSION

- SOME LESSONS ARE ROBUST:
 - DYNAMIC PROCESS OF INNOVATION
 - ECONOMIC CONTEXT MATTERS
 - DOUBLE FOCUS ON INDIVIDUAL FARMERS AND ON SYSTEMS OF ACTORS
- T.O.T. MENTAL FRAMEWORK MUST BE OVERCOME/NATURE OF INNOVATION
- VESTED INTERESTS AS OBSTACLES
- DELICATE INSTITUTIONAL ENGINEERING IS REQUIRED