

# **21st Century Innovation Leadership; Rules & Parameters of Innovation**

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# OUTLINE

- ❖ **What is Innovation**
- ❖ **Nurturing Innovation**
- ❖ **Evolution of Innovation: Phases**
- ❖ **Evolution of Innovation: Trends & Needs**
- ❖ **Defining Innovation: Perspective & Nuances**
- ❖ **Innovation & Sustainability**
- ❖ **Innovation Leadership**
- ❖ **Conclusion**

# Innovation is :

❖ **An act which is so simple, yet unassuming, so unique yet quite familiar and so ordinary yet extraordinary**

- **Maximum output from minimum inputs is the key criteria for assessing an innovation**
- **Real innovation means “high impact with mild force”; high level of value creation**
- **Innovations are acceptable to all !**

# Innovation Is:

**NECESSARILY**



**A New Idea**

**A New Product**

**A New Method**

**→ Creative**

**→ Novel**

**→ Non conventional**

**NOT NECESSARILY**



**Unheard before**

**Unseen before**

**Not tried before**

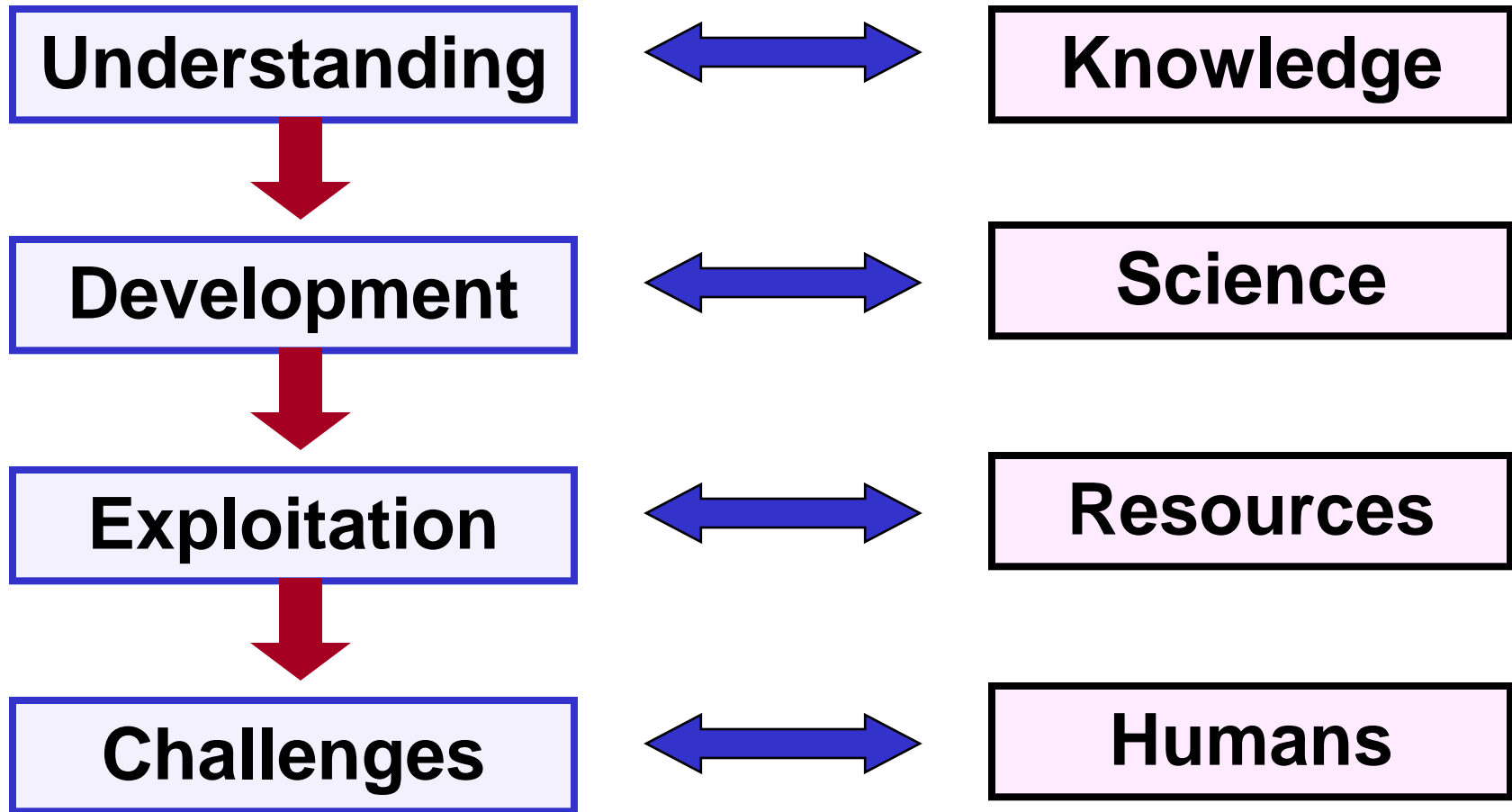
**→ Education driven**

**→ Technology driven**

**→ Unknown**

- **An easily diffusive approach producing maximum output from minimum inputs or efforts.**

# What does an Innovation Pertain to :

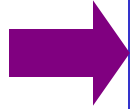


- **Intervention of Human activities to exploit Resources has been the driving force**
- **Evolution of Innovative ways has been the landmark**

# Nurturing Innovation

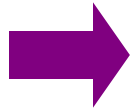
# Ways to Nurture Innovations

**CREEPING  
CRISIS**



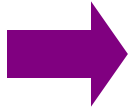
- ◆ Innovation with creativeness
- ◆ Development of improvised technology

**ENGAGE**



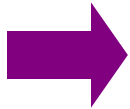
- ◆ involve Skilled & knowledgeable people
- ◆ Identify the root cause

**RETHINK**



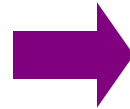
- ◆ Cause of failure
- ◆ Change Policy

**GET  
INVOLVED**



- ◆ Develop new technology
- ◆ Promote and propagate innovations

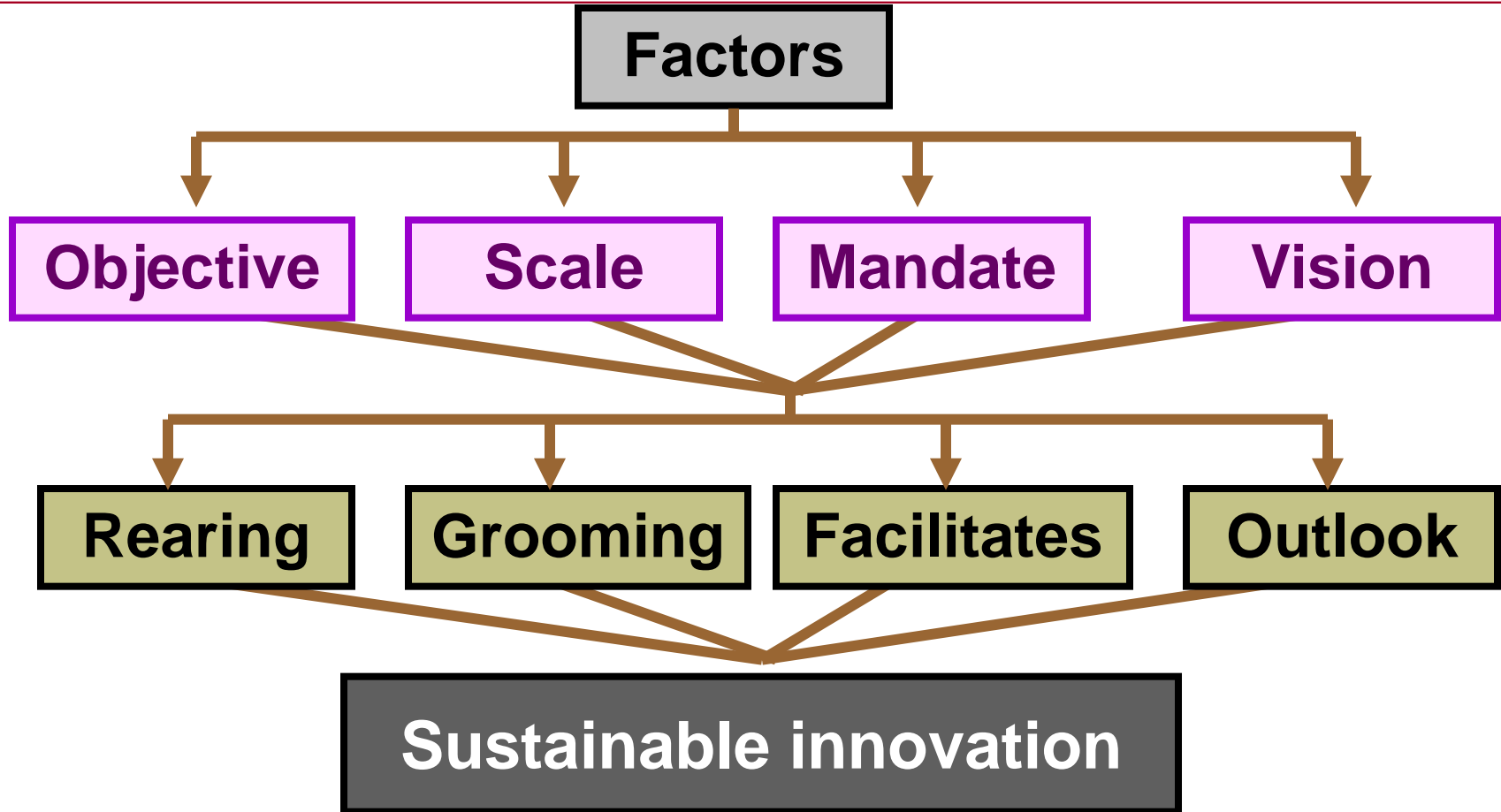
**INSPIRE**



- ◆ To create incentives
- ◆ Motivations

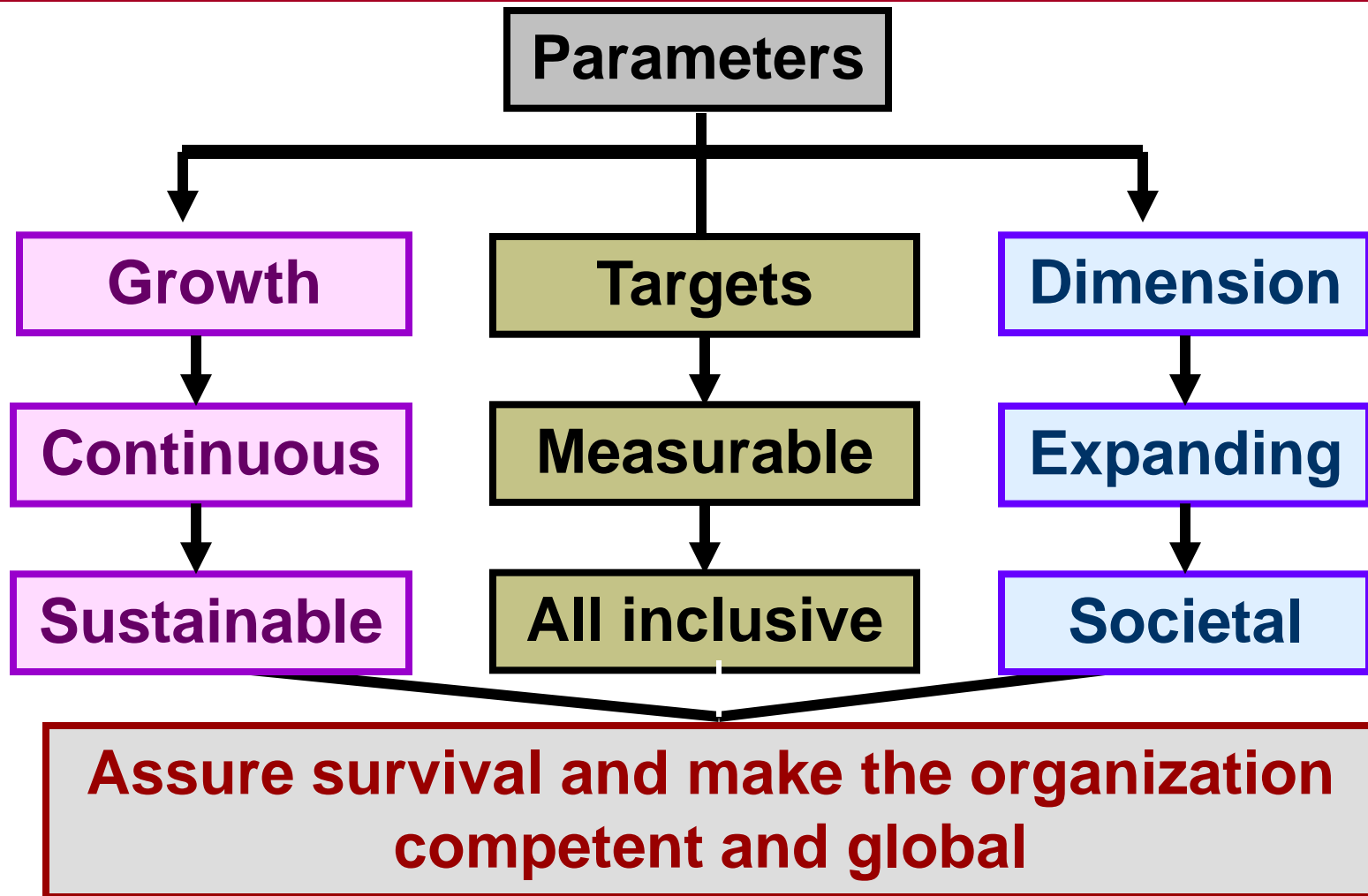
⇒ **A policy framework must envisage such ways to nurture innovation at various levels**

# Factors Nurturing Innovations



- To be or not to be, for how long, to go how far & for what purpose would decide the factors responsible for promotion of innovation
- For growth the propagation of innovation has to be facilitated with an open outlook for global set up

# Parameters for Nurturing Innovation



- The understanding & the control of parameters would decide the path for promotion & propagation of innovation
- Organization can be evaluated for their globalness by the set parameters

# Path Forward for Nurturing Innovation

**Path for nurturing innovation**

**Factors**

**Controlling parameters**

**Systems**

**Promotion**

**Capability**

**Move forward for**

**Finalization & firming up**

**Mechanism**

**Integration of R & D plans**

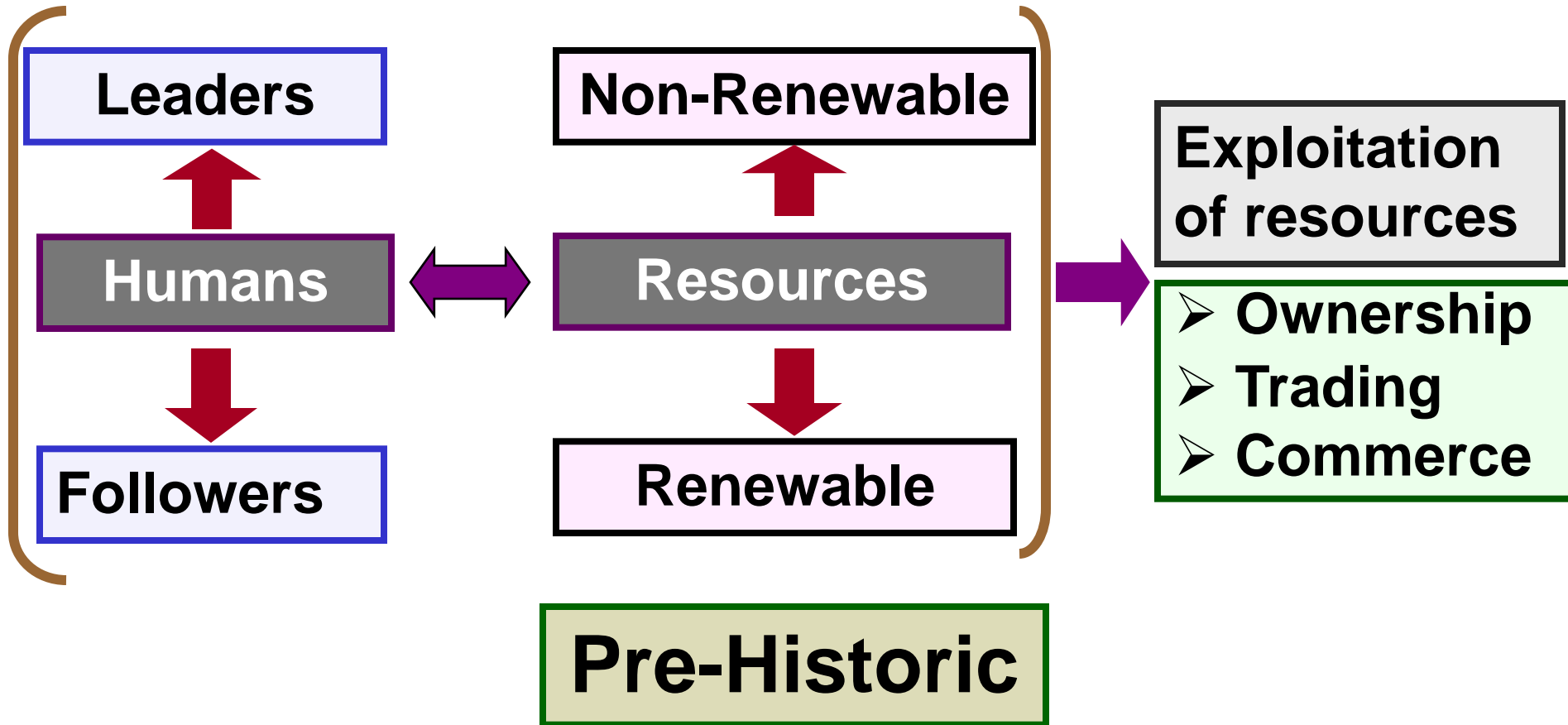
**Unbiased ways**

**All inclusive**

- The path forward has to envisage all essential inputs of innovation in the S & T policy or innovation policy

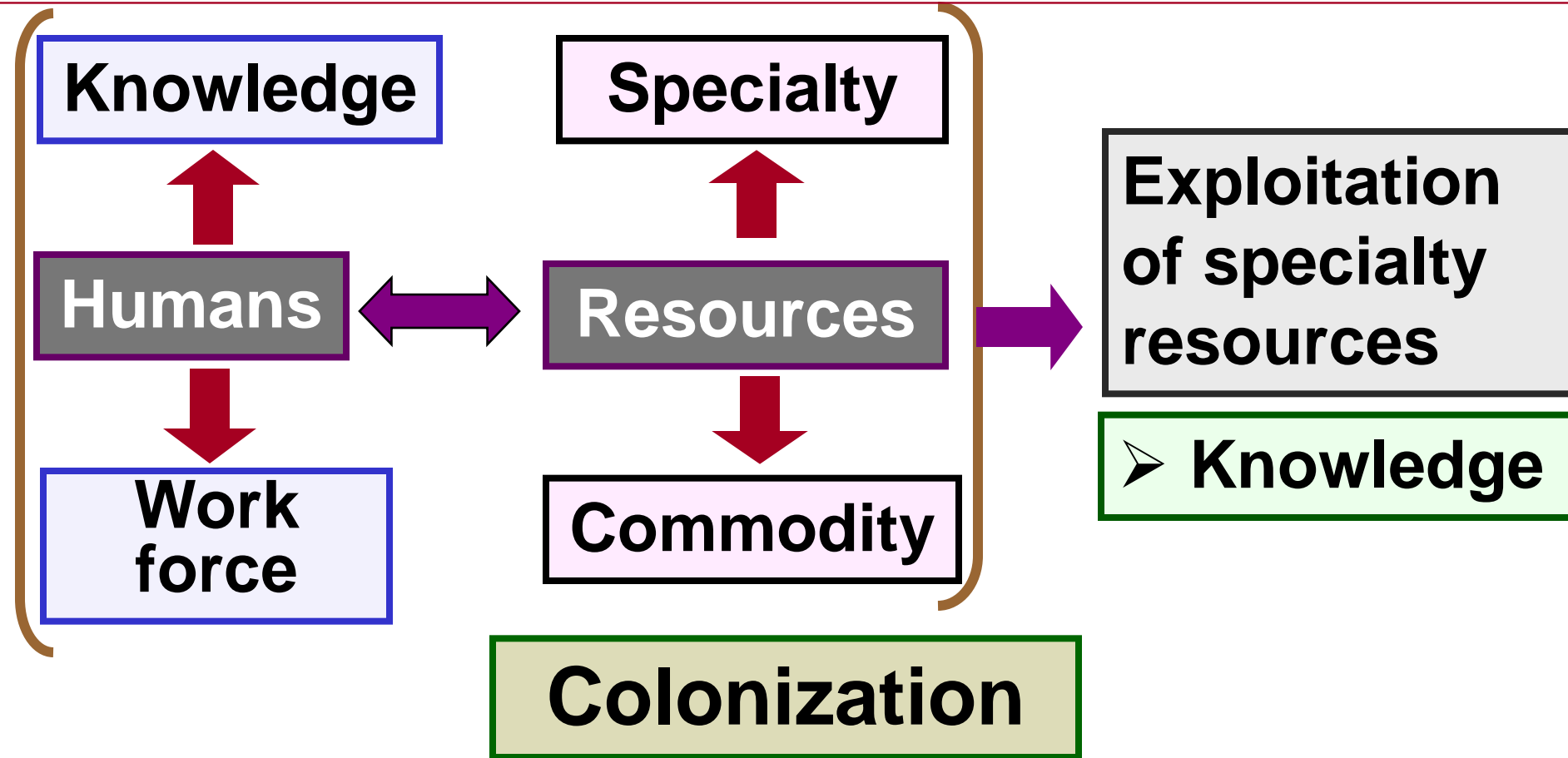
# Evolution of Innovation: Phases

# Evolution of Innovation: Phase I



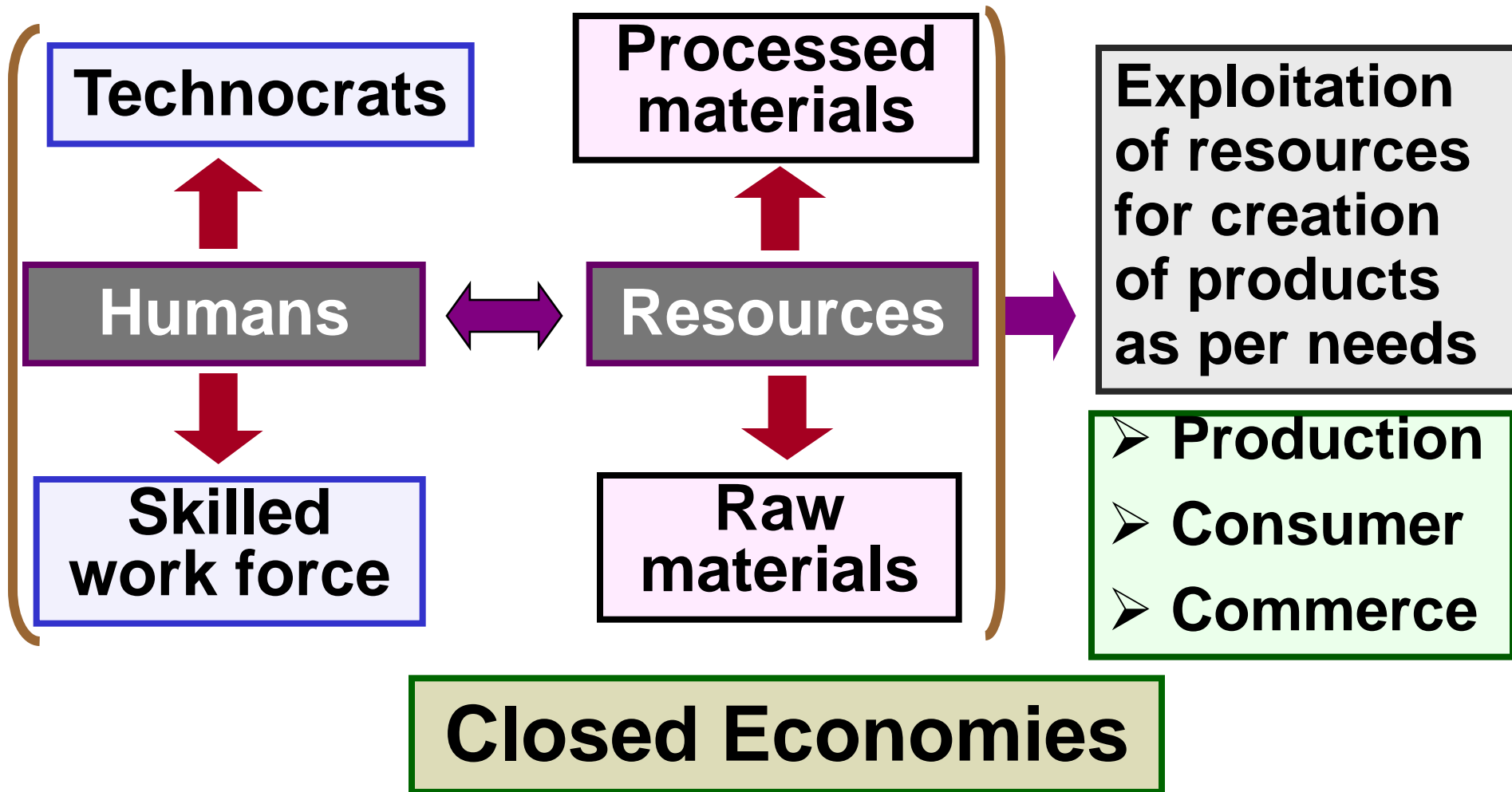
- **Resources were natural**
- **Exploitation of resources** ➡ **an urge for leadership**
- **Leadership meant human strength & muscle power**

# Evolution of Innovation: Phase II



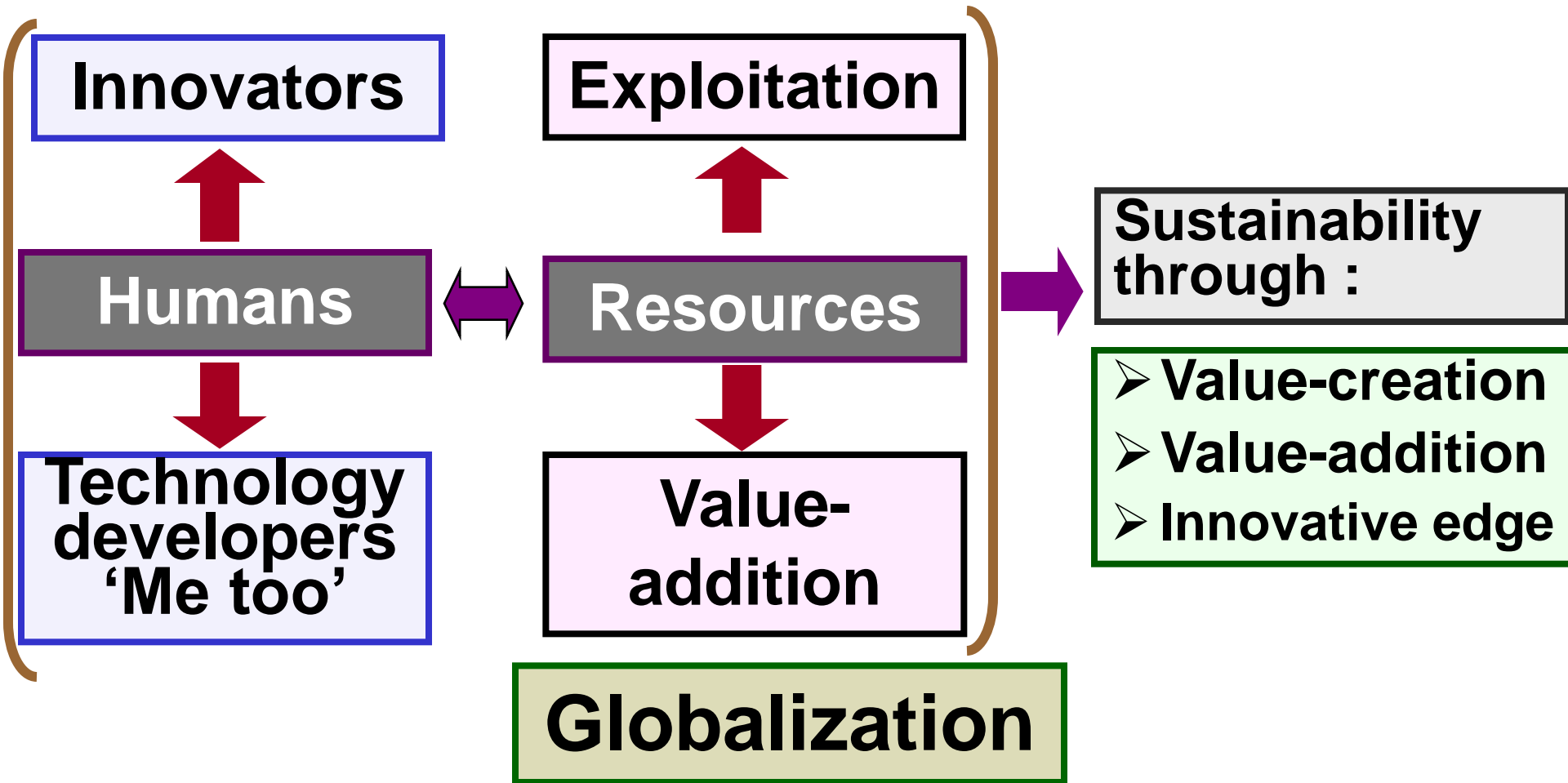
- Understanding about specialty resources led to creation of leadership
- Economic & Muscle power brought leadership

# Evolution of Innovation: Phase III



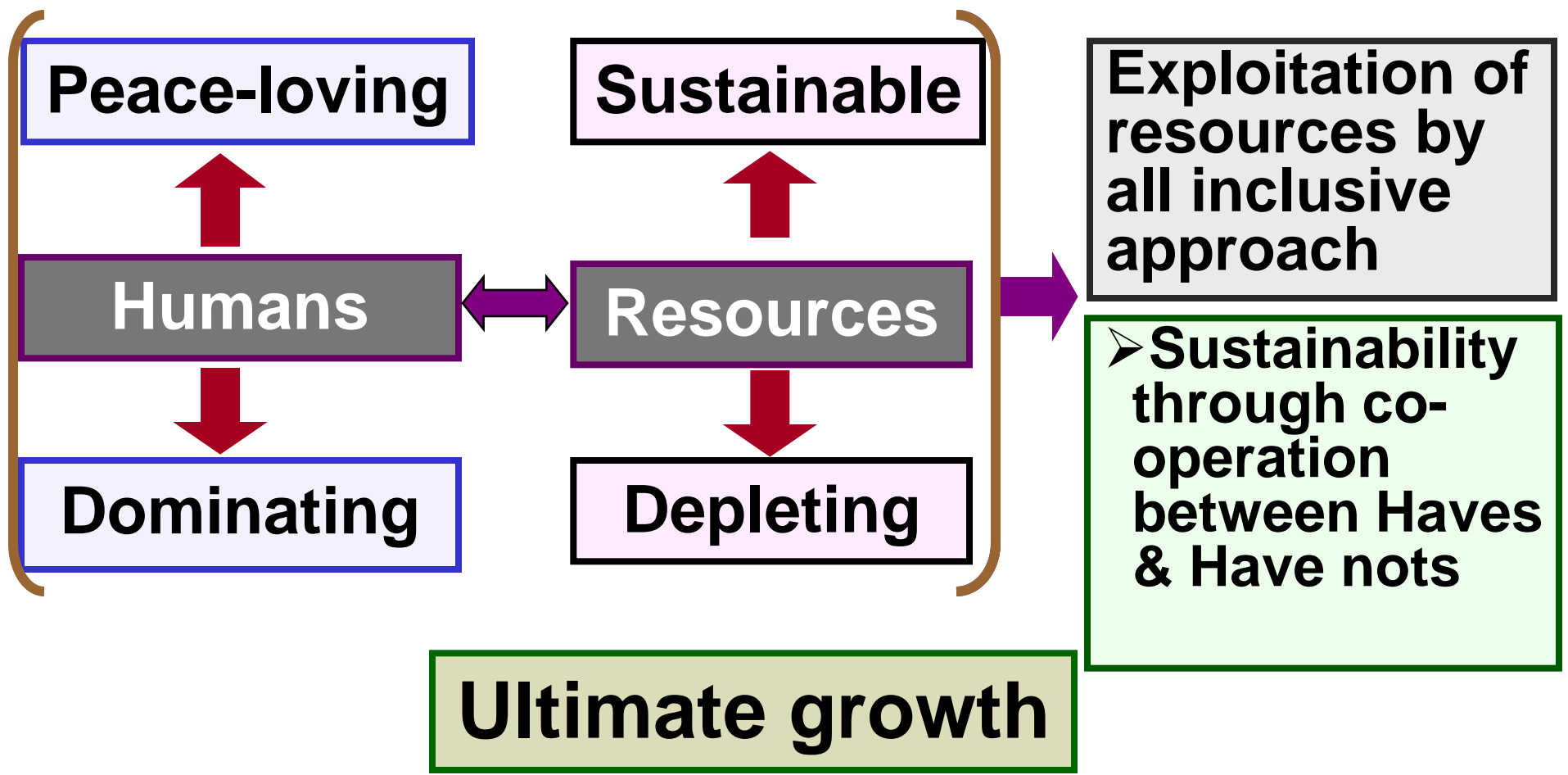
- **Supplied materials & devices in select hands**
- **Leadership through technology; Colonies !**

# Evolution of Innovation: Phase IV



- Innovations create Leadership; No trade barriers !
- Innovations are key for economic as well as technological growth; No boundaries !

# Evolution of Innovation: Phase V



- Leadership means hand-holding, sharing & co-operation
- Leadership would aim for an all inclusive society

# Evolution of Innovation: Trends & Needs

## Pre-Historic

| Resources | Basic needs    | Activities  | Innovations         |
|-----------|----------------|-------------|---------------------|
| Animals   | Food & shelter | Hunting     | Tools (stone/metal) |
| Forests   |                | Food & feed | Fire                |
|           |                | Caves       | Wheel               |

- Level of innovation was always extra-ordinary
- Innovations led to creation of societies

# Evolution of Innovation: Trends & Needs

## Colonization

**Resources**

**Basic needs**

**Activities**

**Innovations**

**Exotic  
foods**

**Exploration  
for  
economic  
power**

**Acquiring  
ownership  
of  
resources  
elsewhere**

**Armament**

**Unique  
Natural  
Materials**

**Knowledge of  
unique  
resources**

**Transportation**

- **Acquiring the resources & humans was the measurement of leadership; Emergence of Colonies**
- **Leadership achieved largely through military power**

# Evolution of Innovation: Trends & Needs

## Closed economy

| Resources           | Basic needs                               | Activities             | Innovations                   |
|---------------------|---|------------------------|-------------------------------|
| Raw materials       | Attain economic leadership & power center | Technology development | R & D                         |
| Processed Materials |   | Exports                | Process & Product development |

- Leadership came through technologies & production power
- Economies became the benchmark of leadership

# Evolution of Innovation: Trends & Needs

## Globalization

**Resources**

**Basic needs**

**Activities**

**Innovations**

**Global &  
Unrestricted**

➤ **Global-  
centric  
rather than  
local-centric**

**Outsource**

**Green  
technology**

**Local focus**

➤ **No barriers  
for  
movement  
of products**

**Merger &  
acquisitions**

**C-foot print  
concepts**

**Transfer of  
technologies**

**Exploitation  
of renewable  
resources**

**Know-how**

➤ **Innovations towards value-creation & value-addition ensuring sustainability would govern the societies**

# Evolution of Innovation: Trends & Needs

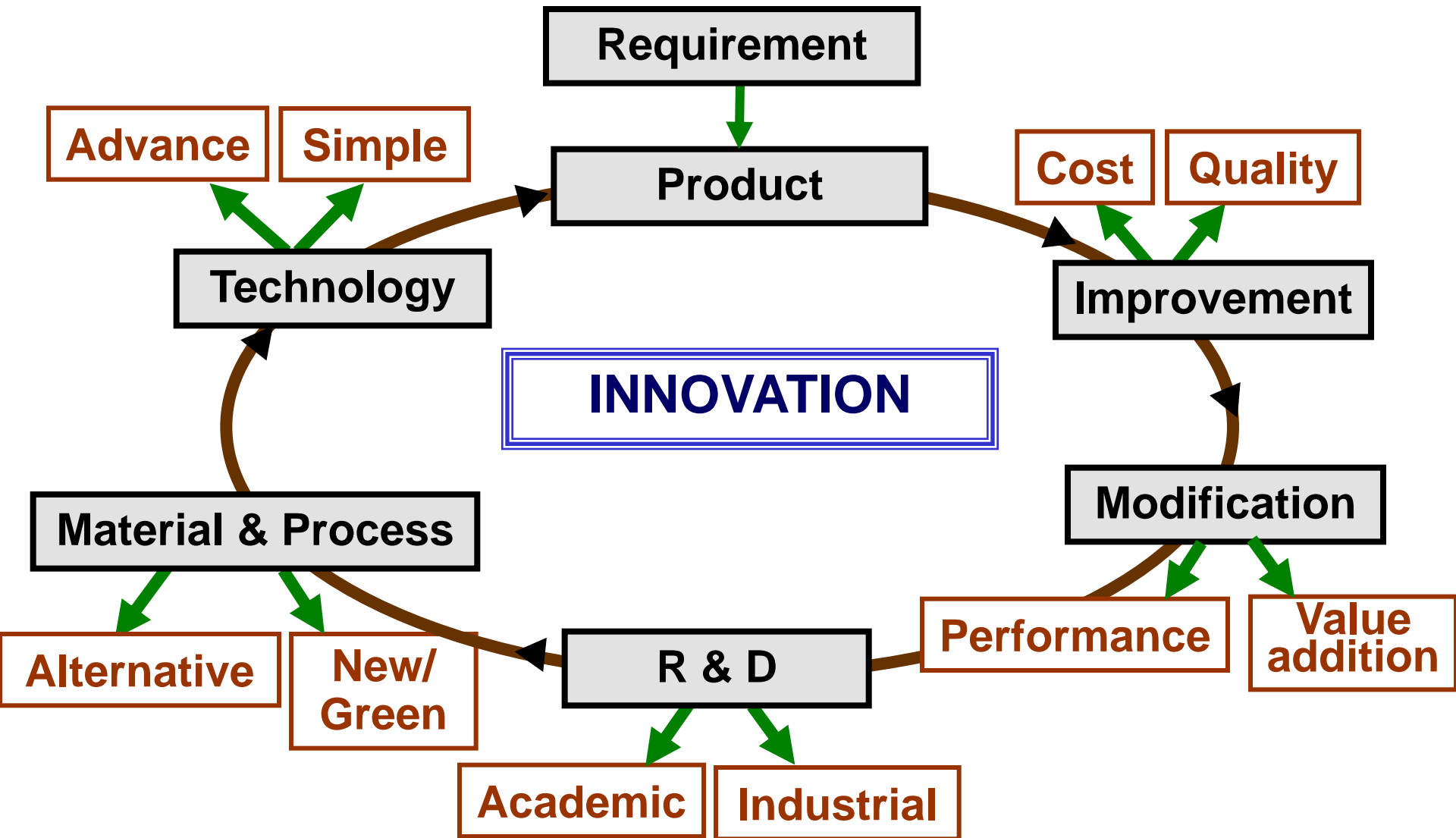
## Ultimate growth

| Resources   | Basic needs      | Activities                 | Innovations                  |
|-------------|------------------|----------------------------|------------------------------|
| Renewable   | Sustainability   | Handholding                | Creating waste to wealth     |
| Green       | Self-sufficiency | Public-private partnership | Reduced energy consumption   |
| Alternative | Efficiency       | Networking                 | Creating sustainable society |

- **Leaders would be those who can**
  - develop technologies for creating wealth from waste
  - prevent depletion of natural resources
  - develop processes based on renewable resources
- **Leadership would be gauged based on sustainability**

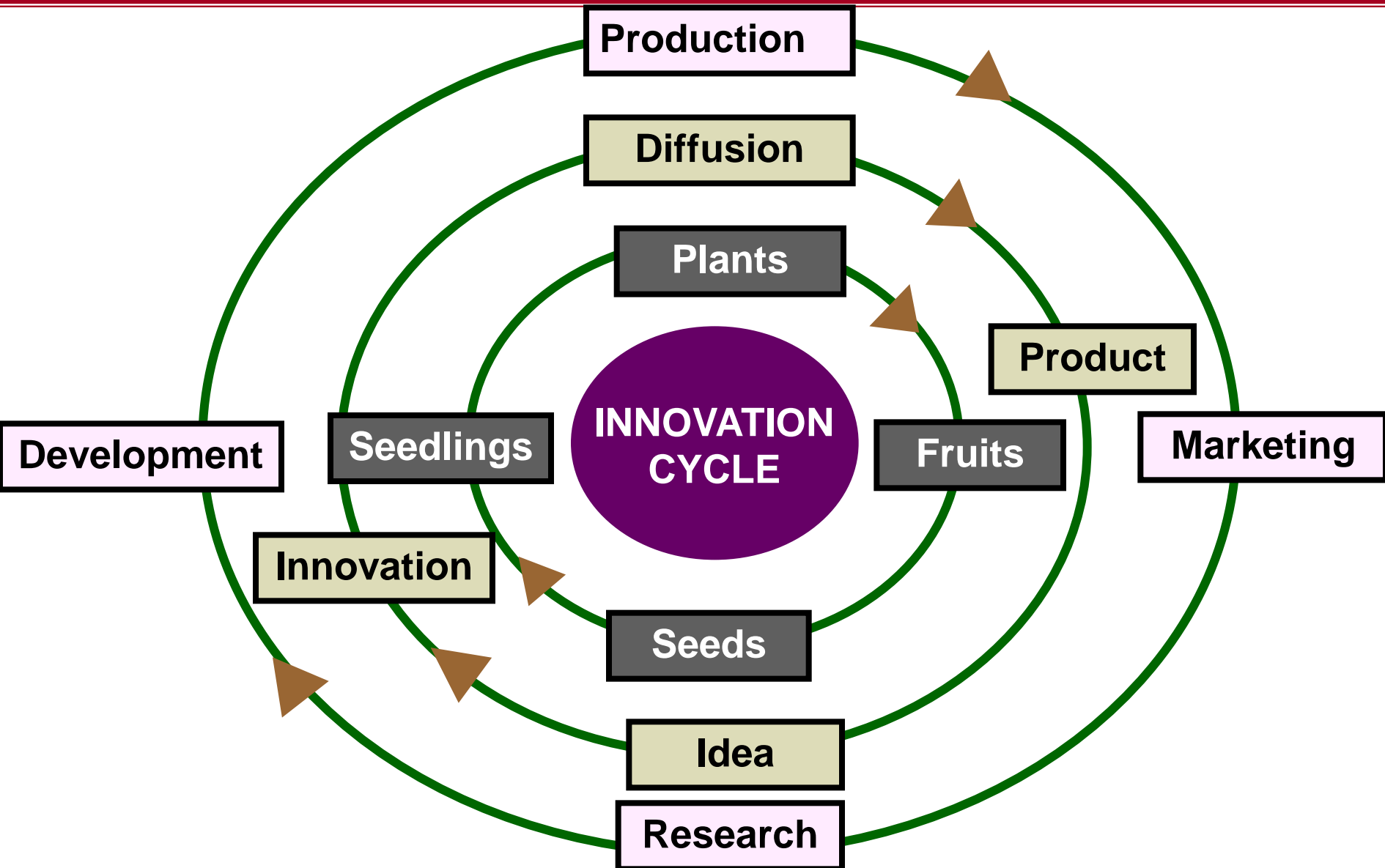
# **Defining Innovation: Perspective & Nuances**

# Defining Innovation



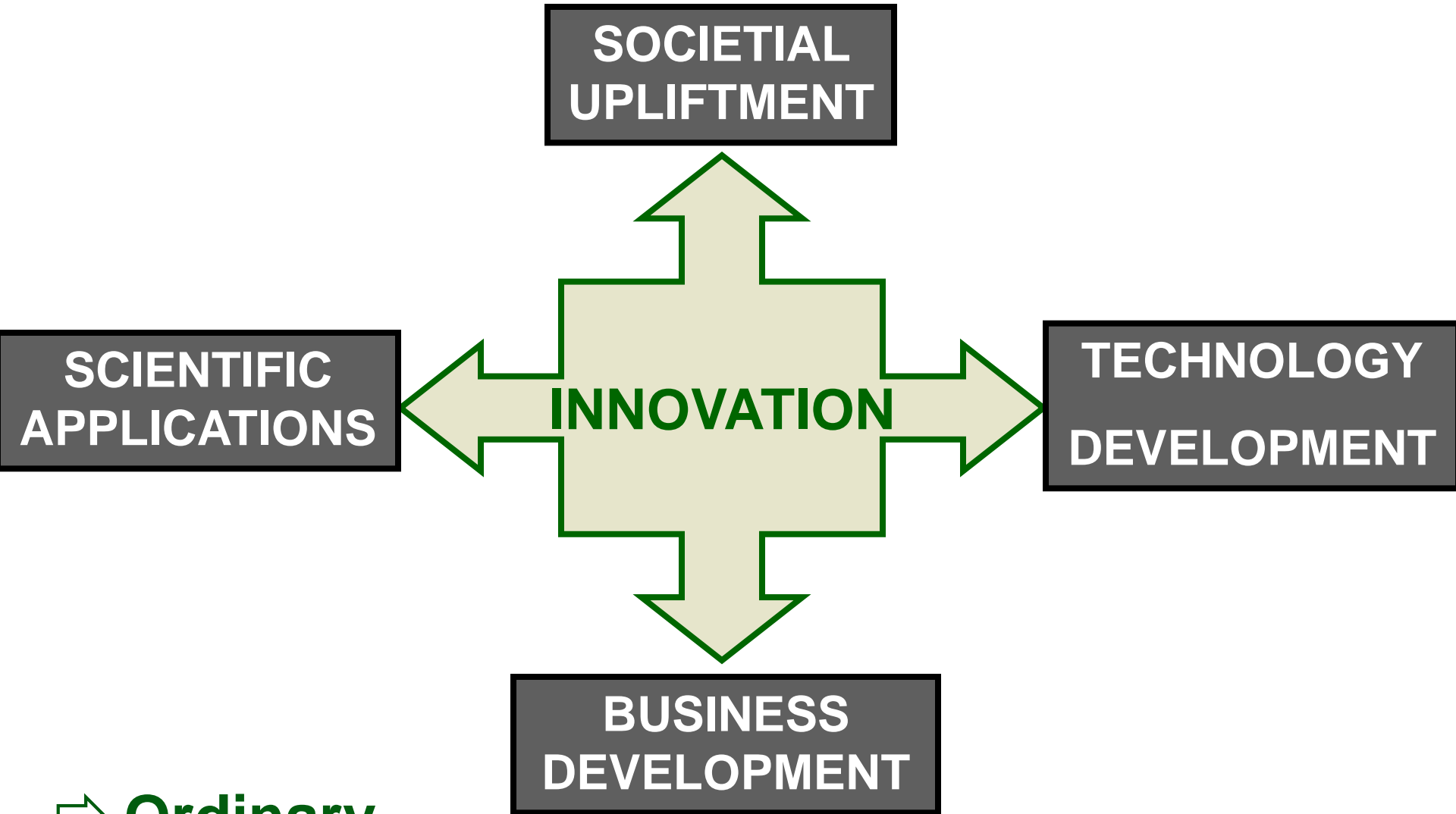
- Innovation, sought at every step → new development
- Every development cannot be termed as an innovation

# Understanding Innovation Cycle



- For value creation of technologies, the industries have to appreciate the innovation cycle and its components

# Dimensions of Innovation



⇒ **Ordinary**

⇒ **Extraordinary**

# Dimensions of Innovations

| Parameter     | Ordinary    | Extraordinary |
|---------------|-------------|---------------|
| Gains         | Significant | Substantial   |
| Coverage      | Local       | Global        |
| Driving force | Skill       | Knowledge     |
| Diffusion     | Society     | Technology    |
| Degree        | Simple      | Advance       |
| Impact        | Short Term  | Long Term     |

- Both are complementary and essential
- While the ordinary innovations succeed due to involvement & use of local resources, extraordinary innovations would need a special set up & an altogether different nurturing approach

# Dimensions of Innovation: Ordinary

**BUSINESS MODEL  
INNOVATION**

**Changing the way business is done in terms of capturing value**

**MARKETING  
INNOVATION**

**Development of new marketing methods with improvement in product design, promotion or pricing**

**ORGANIZATIONAL  
INNOVATION**

**Creation or alteration of business structures, practices, and models**

**PROCESS  
INNOVATION**

**Implementation of a new or significantly improved production or delivery method**

# Dimensions of Innovation: Ordinary

## PRODUCT INNOVATION

Introduction of a new good or service that is new or substantially improved

## SERVICE INNOVATION

Refers to service product innovation which might be, compared to goods product or process innovation

## SUPPLY CHAIN INNOVATION

Sourcing of input products from suppliers and the delivery of output products to customers

## VALUE ADDITION INNOVATION

Providing the assistance to the users to value add their product

## SUBSTANTIAL INNOVATION

Introducing a different product or service within the same line

# Dimensions of Innovation: Extraordinary

**PRODUCT  
INNOVATION**

**A new product with innovative approach based process or from alternative materials**

**APPLICATION  
INNOVATION**

**Existing product, for novel application**

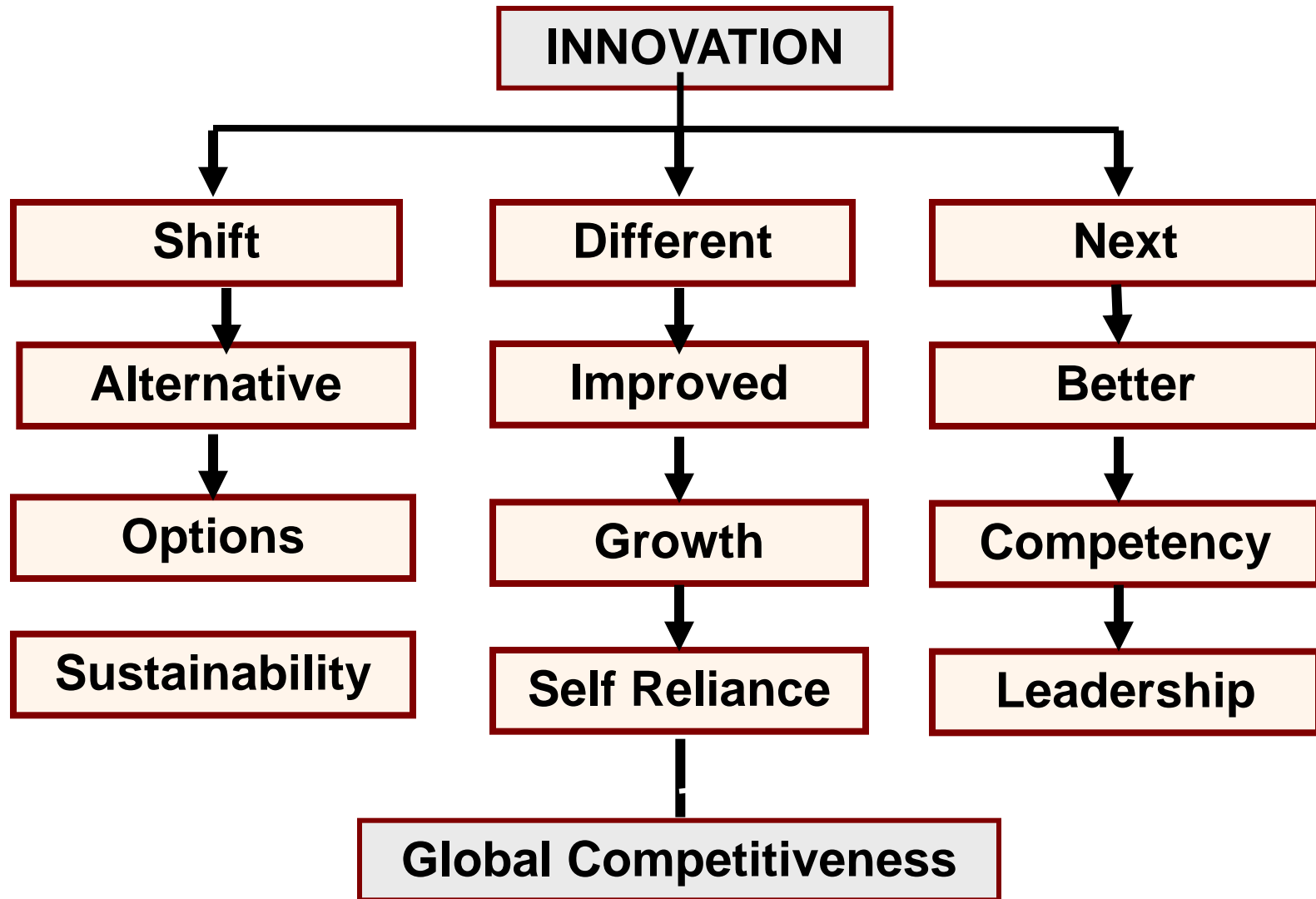
**MATERIALS  
INNOVATION**

**Novel ways to obtain sustainable materials with unique features & properties**

**PROCESS  
INNOVATION**

**Process using natural route and mechanism**

# Innovation for Global Competitiveness



⇒ Change is the only tool for survival, growth and global competitiveness; through innovation

# **Innovation & Sustainability**

# Innovation : Sustainable Economy

Highly qualified products

Reuse of secondary products

Waste minimization

Sustainable economy

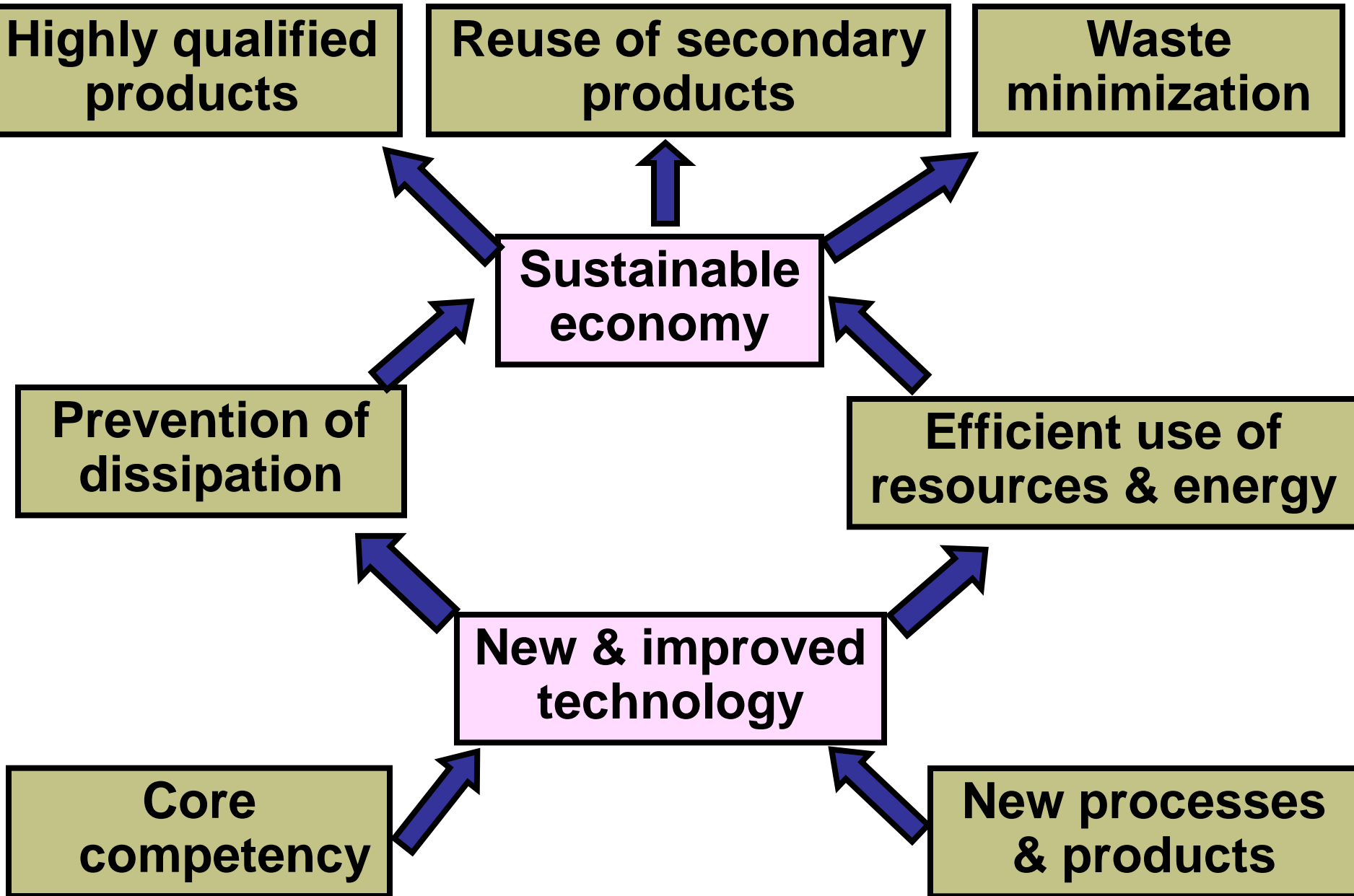
Prevention of dissipation

Efficient use of resources & energy

New & improved technology

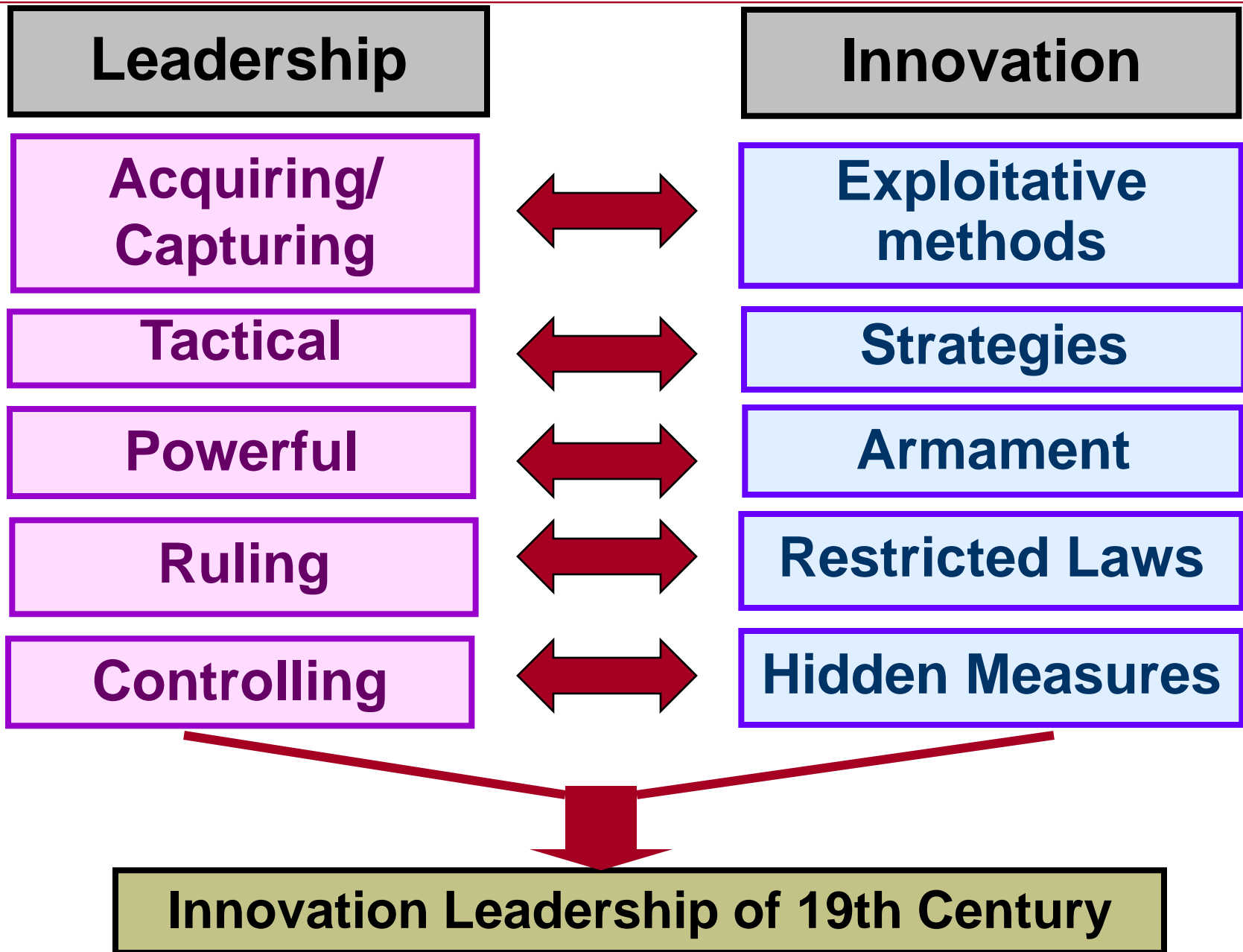
Core competency

New processes & products

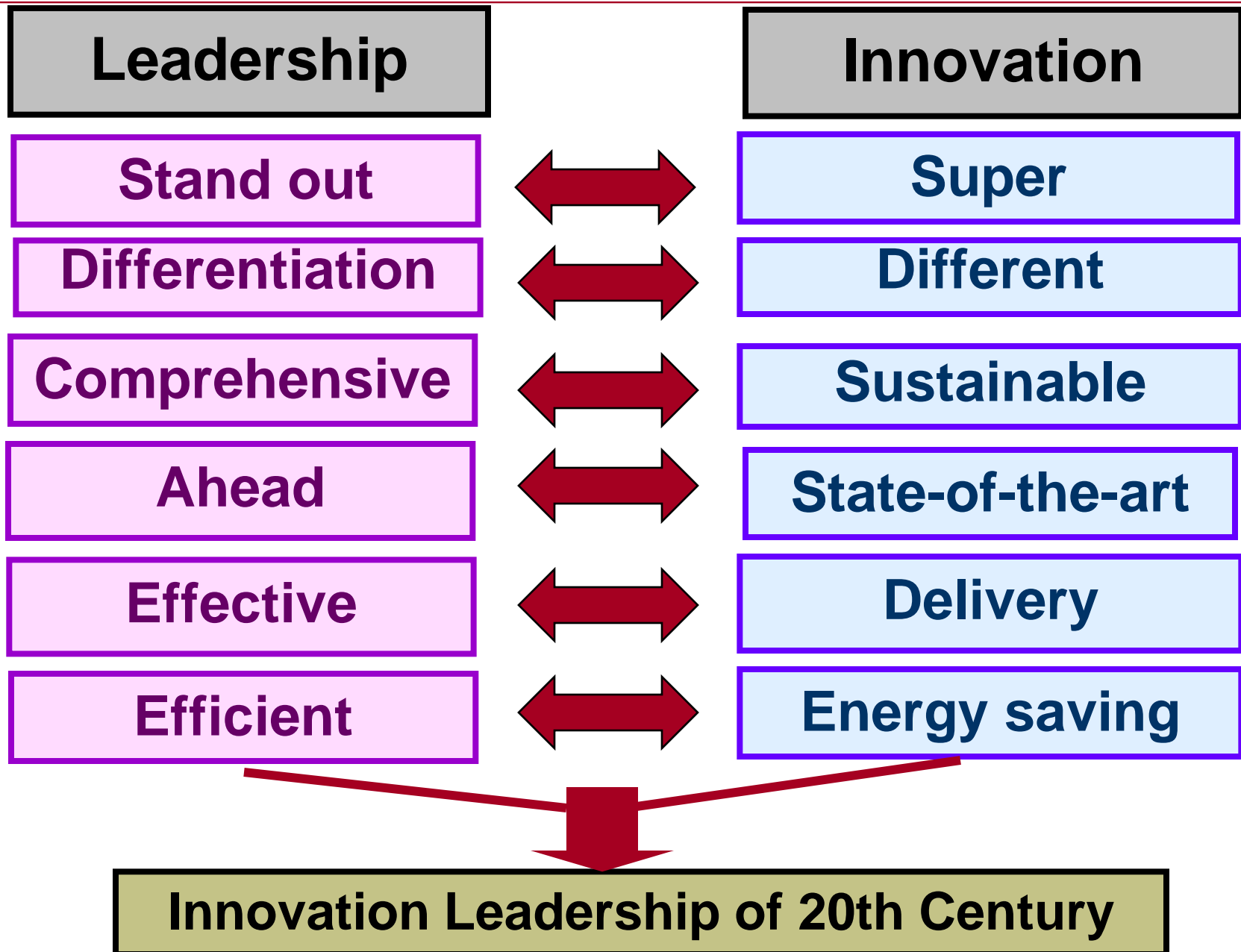


# **Innovation Leadership**

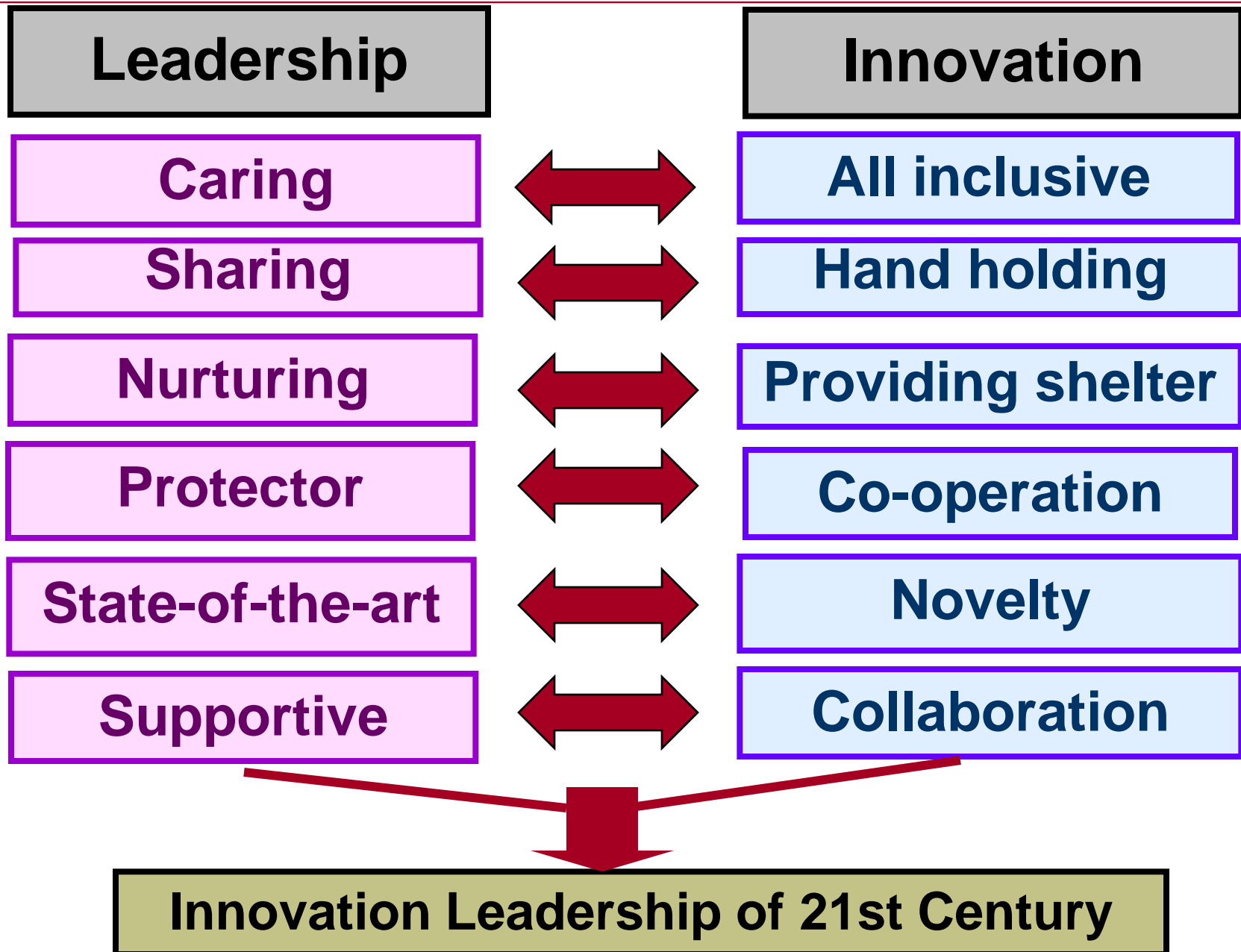
# Innovation Leadership : Parameters



# Innovation Leadership : Parameters



# Innovation Leadership : Parameters



# Conclusion

- ❖ **Innovations will drive the developmental trends of growth of society**
- ❖ **Innovations would bring the world together rather than dividing it**
- ❖ **Innovation Leadership would be a common phenomenon happening all around**
- ❖ **It will create a harmonious world with sustainability of growth & life on this earth**

**THANK YOU**