



- 5 - K**
- ☑ Keteraturan
  - ☑ Kerapihan
  - ☑ Kebersihan
  - ☑ Kelestarian
  - ☑ Kedisiplinan



# ***FDI-based Technology Transfer*** ***- JICA's experience in domestic private sector capacity building in Indonesia -***

## ***4<sup>th</sup> High Level Forum for the Phase II of Policy Dialogue of Industrial Development in Ethiopia***

**Toru Homma**

Senior Advisor on Private Sector Development  
 Japan International Cooperation Agency (JICA)

[Homma.Toru@jica.go.jp](mailto:Homma.Toru@jica.go.jp)

Addis Ababa, 30 July 2013  
 Japan International Cooperation Agency



# Contents

1. Basic understandings of FDI-based technology transfer
2. JICA's experience in domestic sector capacity building in Indonesia
  - ✓ In relation to FDI-based technology transfer
  - ✓ Menus: Supporting industries, resource oriented local industry/export promotion, institutionalization, FDI promotion
3. Implications for Ethiopia

# 1. Basic understandings on FDI-based technology transfer

- Typical patterns of FDI-based technology transfer mechanism (JBIC & OECD, 2002 etc.)
  - 1) Vertical linkage
    - Backward linkages (TT for local suppliers)
    - Forward linkages
  - 2) Horizontal linkage
    - Demonstration and competition effects
    - Corrective effects
  - 3) Labour movement
    - Spin out and turn over
  - 4) Multinational enterprises (MNEs) internal
    - From HQ to local subsidiaries including R&D

# Basic understandings on FDI-based technology transfer

## ■ Technology spill over really happens? Correlation between FDI and technology diffusion

(Micro data comparative analysis at enterprise level by Todo 2009 etc.)

- 1) Spill over effect by FDI in same sector: Not always happens (Yes in the cases of Mexico and Taiwan, No in the cases of Morocco and Czech)
- 2) But spill over effect by backward linkage is confirmed (from several surveys such as Lithuania, Indonesia and China)

## 2. JICA's experience in domestic private sector capacity building in Indonesia



- 247 mil. Population (2012), 4<sup>th</sup> largest, G20
- GNI per capita \$3,420 (2012, current, WB) from \$560 (2000, ditto)
- FDI inflow \$24.5 bil. (2012, realized base, source: BKPM) from \$15.1 bil. (2001, ditto), became more manufacturing oriented
- Turned from oil export dependent into net oil import
- Economic integration (ASEAN & APEC)
- Traditionally deep ties with Japan both in public/private: EPA, East Asian industrial network
- All the menus are available here

# Key questions

## ■ Supporting industries?

- *“industries which supply various components, parts and materials for assembly makers”*: key industrial structure in Asia, in particular FDI-based TT
- How it works in Indonesia? JICA assistance?

## ■ Any other alternatives?

- Local resource-based SMEs? Export-oriented SMEs? Champion product? JICA assistance?

## ■ Any example of institutionalization?

- SME Management Consultant System

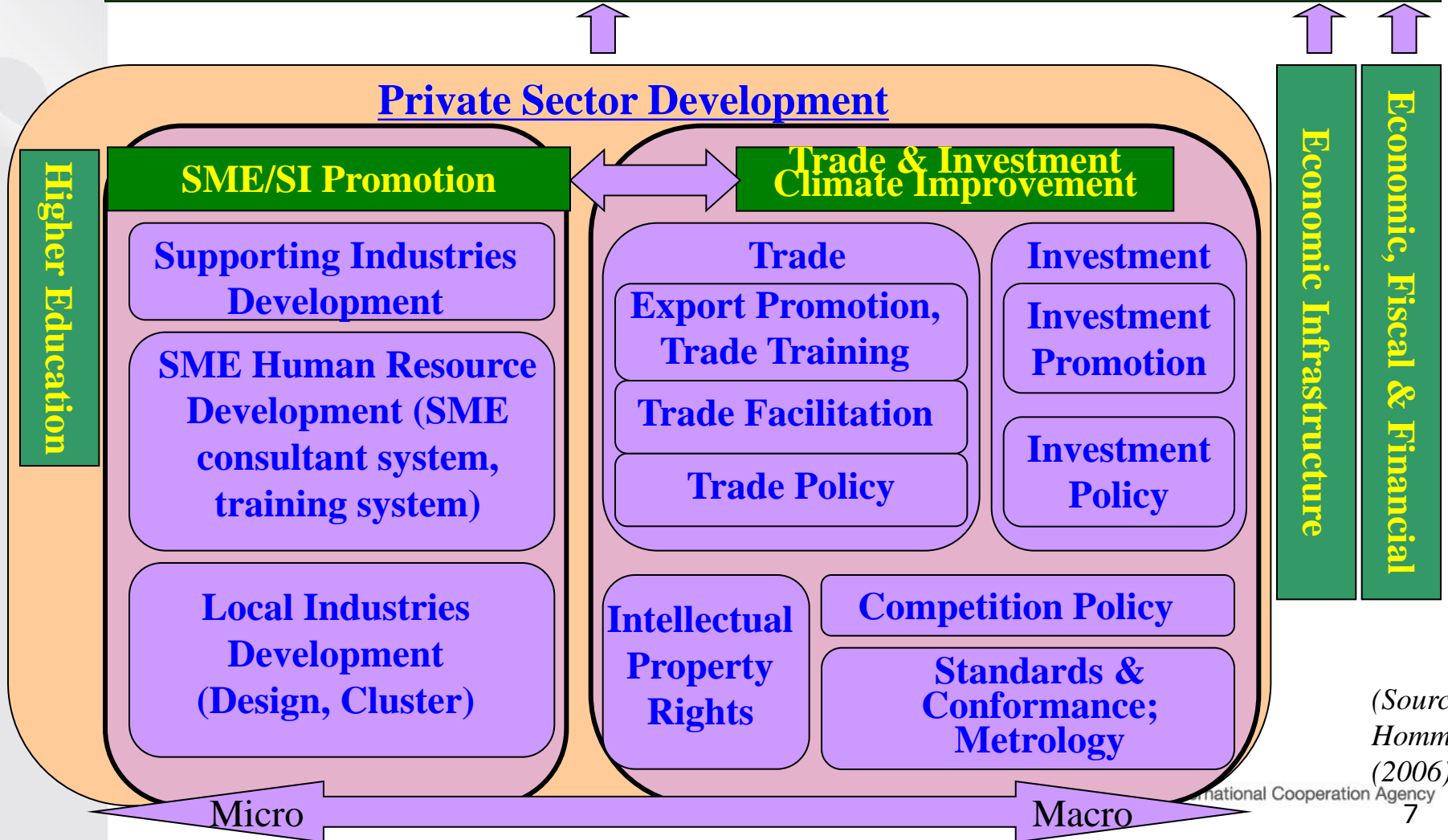
## ■ Investment promotion in Indonesia?

- Japanese investment, JICA assistance, investment opportunity, SEZ ...

## ■ What are applicable to Ethiopia and how?

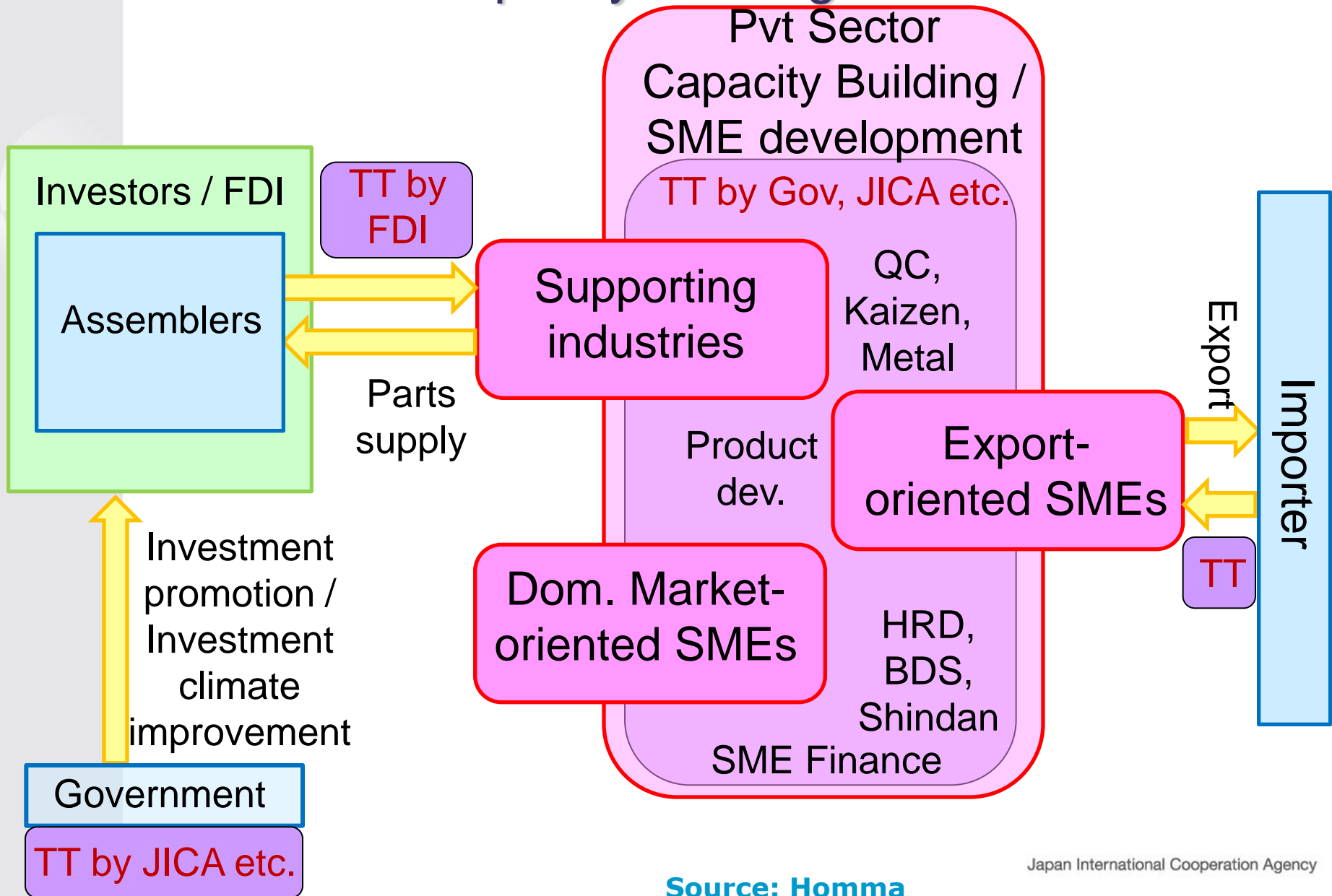
# JICA in Indonesia: Private Sector Development Programme

**Support for Sound Environment for Sustainable Growth  
Driven by Private Sector Investment**



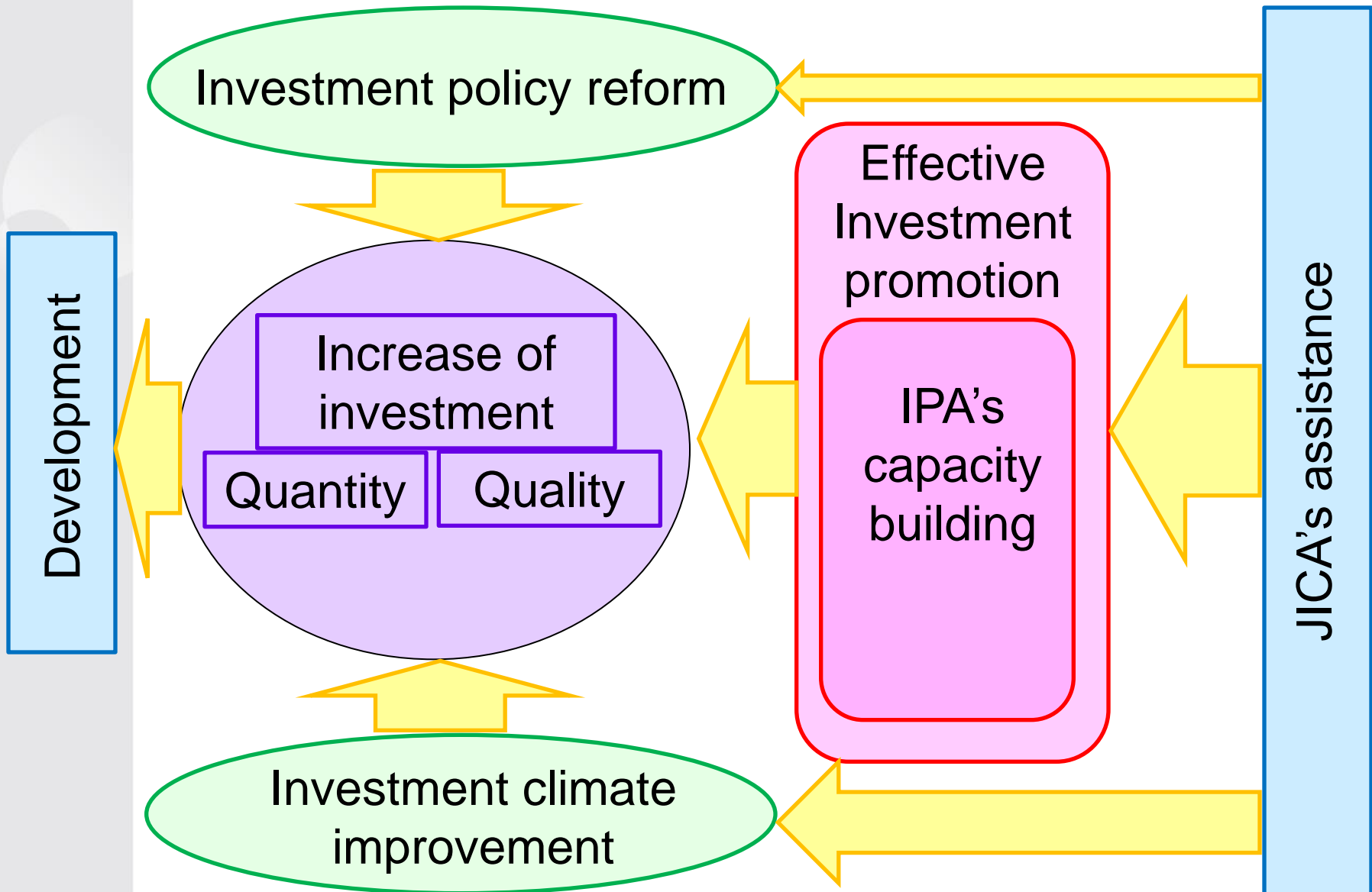
(Source: Homma (2006))

# Major approaches in relation to domestic private sector capacity building / FDI-based TT





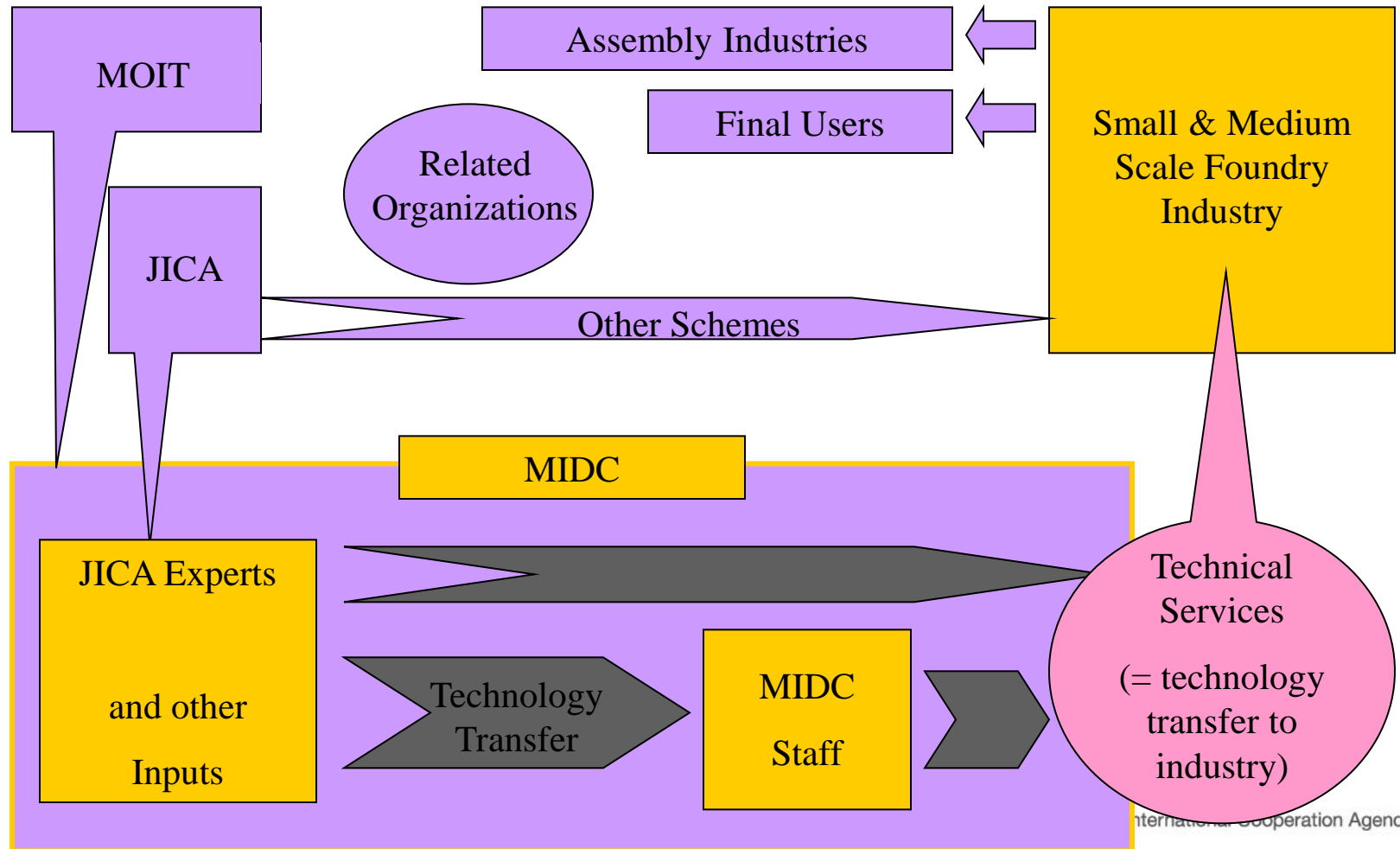
# Major approaches for TT for investment promotion



# Project on Supporting Industries Development for Casting Technology in Indonesia

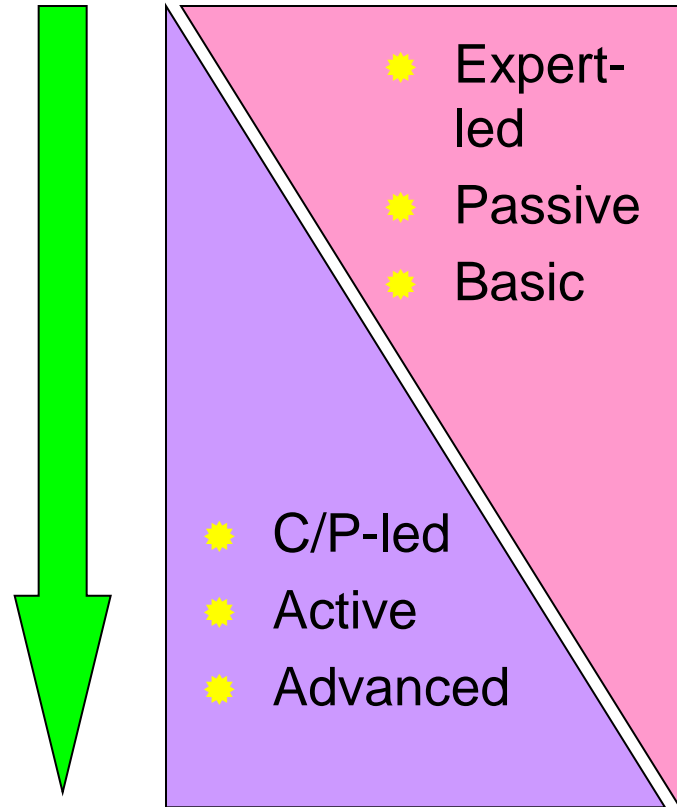


- Project Period: 1999-2004
- Metal Industries Development Centre (MIDC) and JICA



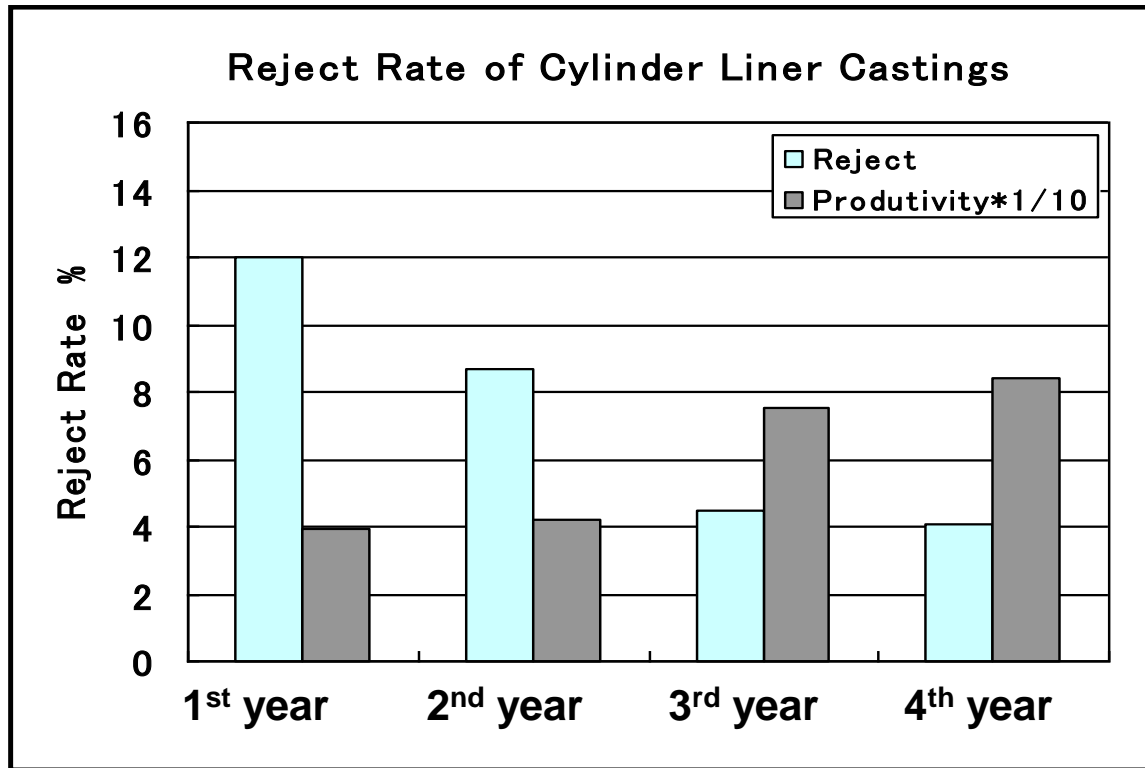
# Micro level mode of Technology Transfer in MIDC

- Lecture
- Discussion
- Demonstration
- Hands-on Training
- On the Job Training
- Learning by Teaching  
– self realisation



**Sustainability**

# JICA Target Company A: Cylinder Liner Production

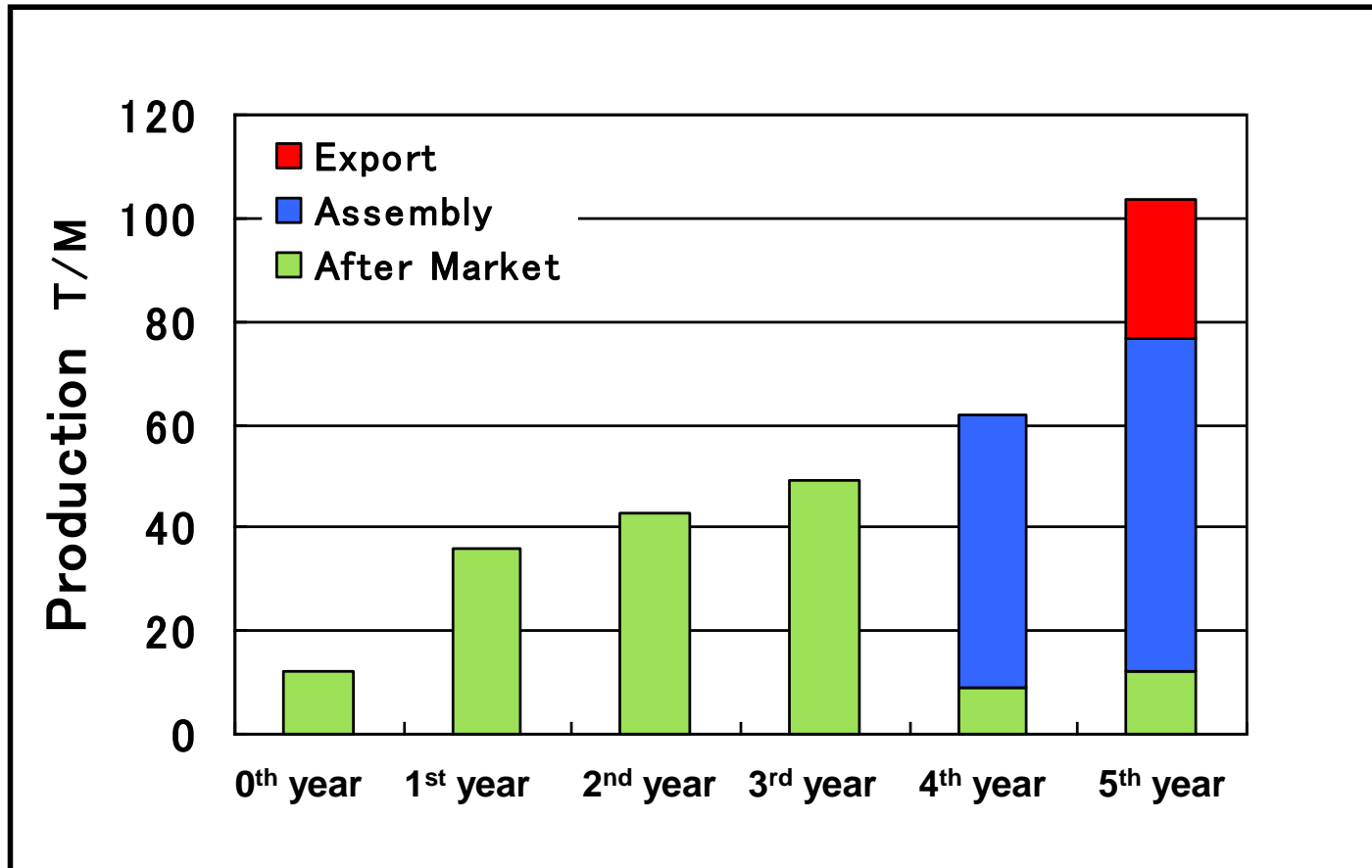


- Capacity 300T/M, Medium-sized
- Decreased reject ratio to 1/3
- Increased productivity to double

Source: JICA and MIDC (2004) and Homma (2009)

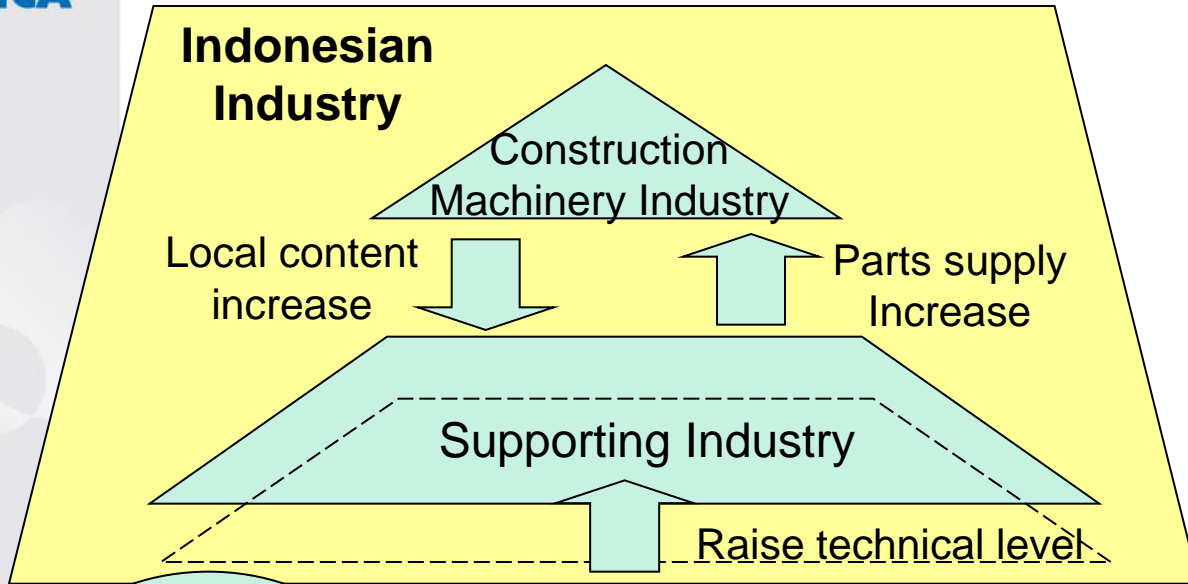


# Target Company A: Cylinder Liner Production



- Achieved delivery to a Japanese assembler
- Started export

# Supporting industries for construction machinery

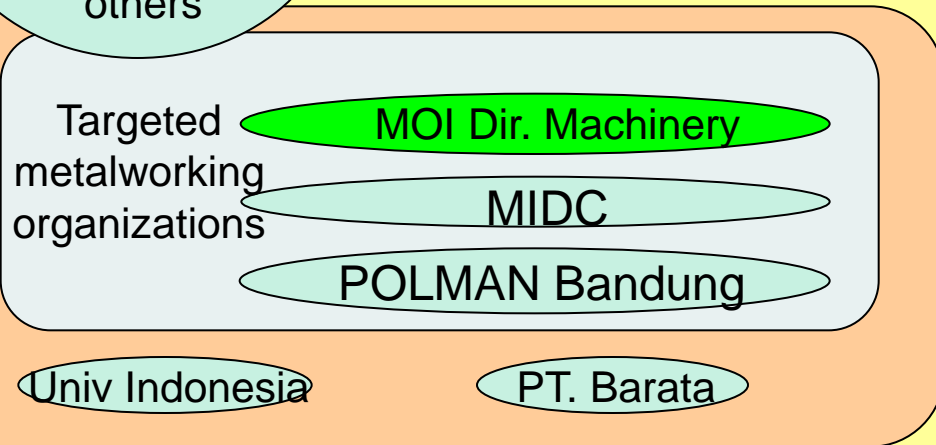


New JICA Project (2013) on Enhancement of Metalworking Capacity for Supporting Industries of Construction Machinery: close collaboration with the private sector

Source: modified from JICA (2013)

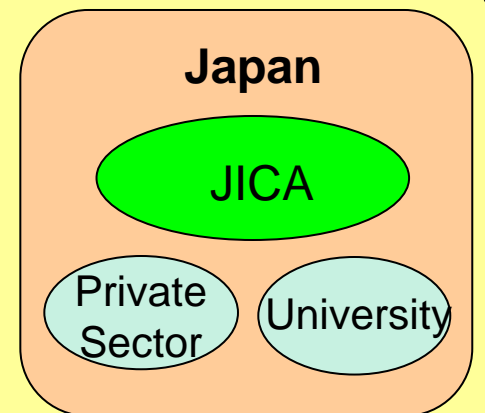
Heavy Eq. Industry Association (HINABI) and others

Technical Services (Training, Seminar etc.)



Experts

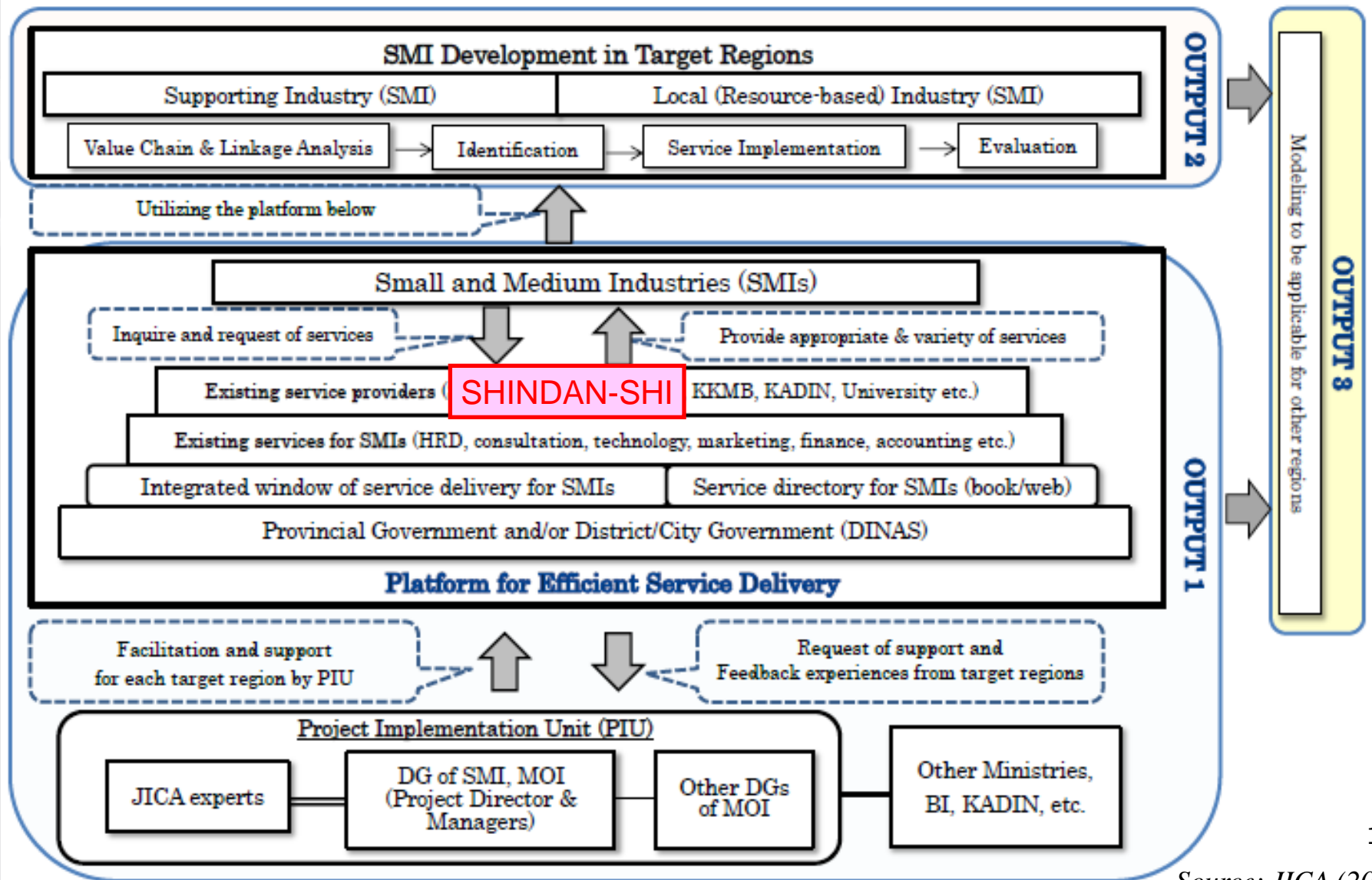
Training in Japan



# Institutionalization of Registered SME Management Consultant System (*Shindan*)

- *Shindan* = diagnosis in original meaning
- Government certified management consultant for SMEs (*Shindan-shi*): diagnosis, advice and consultation (Ministerial Decree 2006)
- Japan's model: transferred to Thailand, then fully transferred to Indonesia through JICA projects
- 250 consultants have been registered in 3 years as "*Shindan-shi*" who were qualified as candidates, completed 6 months intensive government training programme and passed examinations
- System fully transferred to MOI; now 417 *Shindan-shi*
- "Production Management" (QC, Process Control, IE, Inventory etc.) and its in-company training are the core of the curriculum (40% of the total time devoted)
- Providing regional SMEs with managerial and technical advice in all over Indonesia

# Utilization of *Shindan-shi* in SMI service delivery institutionalization (2013 JICA Project concept)





# Alternative to supporting industries dev.:

## Local SMEs development

- Various projects for discovering, utilizing and developing untapped local resources (which may correspond to “Champion Products”)
- Both export-oriented and domestic market-targeted; it could be also another source of attracting FDI
- Capacity building for product development and production management
- TT from importer or JV partner and spill over effect of horizontal linkage of FDI-based TT may be available
- Major recent projects include:
  - ✓ SMI Cluster Development Project (2009-10): Embroidery of West Sumatra Province etc.
  - ✓ South Sulawesi Local Industries Dev. Project (2009-12): Processed products of cacao, passion fruit, silk, marble and seaweed
  - ✓ SMI Development based on Improved Service Delivery Project (2013-16) (see previous slide)

# Domestic PSD through export training

- JICA's Technical Cooperation with IETC (Indonesia Export Training Center) etc.

- Phase 1 Project (1988 – 1993)

Export training; business Japanese language; inspection and quality control; exhibition training

- Follow Up Project (1994 – 1995)

- Phase 2 Project (1997 – 2001)

Human Resource Development in Trade Sectors Project  
Formulate and device training program

- RETPCs Project (2002 – 2006)

Through 4 Regional Export Training and Promotion Centers

- Continued cooperation

as a host of various JICA training courses



# Export Training



Distance Learning



Face to Face Training



Training utilizing IT

# Proposed action plans for export promotion organization = Possible menu

Market Information Service	A14 Design/brand awareness for SMEs
A01 Review incl. website design	A15 SME design/brand dev. training
A02 Market intelligence capacity	A16 Design-related information service
A03 Value-added market info Service	A17 Matching SMEs and designers
A04 Buyers list improvement	Network and Alliance
A05 Exporters list improvement	A18 Government support desk
Export Promotion Service	A19 Support for RETPCs & alumni
A06 Customer service center establish	A20 NAFED regional information desk
A07 Free membership service: Club	A21 Service providers partnership
A08 Business partnership program	A22 Export education for awareness
A09 Export Market Dev. Grant scheme	Organizational/Manage system
A10 Industrial cluster dev. program	A23 Organizational restructuring prep.
A11 Dialogue w/ major export industries	A24 Evaluation system establishment
A12 Inter-ministerial meeting	A25 ISO9000-base management system
Product Development Service	A26 HR management system
A13 Design/brand development capacity	A27 Renewal of visual identity

# ["Coffee" Break 1] by the way, Indonesia's "Champion Product" Kopi Luwak (Civet Coffee)



Photo: Homma (2012)

the most expensive coffee in  
the world with retail prices at  
US\$700 per kilogram

Beans of coffee berries once they  
have been eaten and excreted by  
the Asian Palm Civet



Wikipedia (2013)

# [Coffee Break 2] Indonesia's "Champion Product" Indo Mie (Instant Noodles)

The manufacturer Indofood becomes the world largest instant noodle manufacturer. Instant noodle was first invented in Japan.



Found along with a main road in Addis Ababa



Found in a supermarket in Addis Ababa;  
with Amharic

Rapid expansion in African market; 3 factories in Nigeria export to western African countries and Europe.

# Japanese investment in Indonesia

## Largest investor now

- Latest data (issued on 23 July) shows Japan is the largest investor in the first half of 2013, followed by Singapore, USA and S. Korea.
- Japan was the second largest investor in 2012, after Singapore. Japanese investment increased 67% from 2011.

## ○ Manufacturing investment focused

- Automobile, motorbike, machinery component, electronics, textile, food ... more than 90% share of automobile industry

## ○ Long-term “quality investment”

- As manufacturing focused, it is considered to create large employment with long-term commitment and a series of expansion
- Tremendous opportunities of trainings and on-site guidance for technology transfer; Kaizen is naturally included

## ○ Japanese investors' view on Indonesia as a destination

- Considered by Japanese investors as the 3<sup>rd</sup> most promising investment host country after China and India (JBIC survey, 2013), increasing every year from 8<sup>th</sup> in 2009
- Reasons: 1<sup>st</sup> - market growth prospects, 2<sup>nd</sup> – labor force

# Bilateral investment policy dialogue frameworks involving JICA

- Economic Policy Support Program (2002-4)
  - Series of Policy Dialogues, Supplemental Studies and Workshops for six fields including Macro Economy, Private Investment & SME
- I-J High Level Public/Private Joint Forum on Investment (JFI) (2004-2008)
  - Planning & Coordination Committee (Chaired by MOT) with 4 Working Groups: Tax/Customs, Labor, Infrastructure, Industrial Competitiveness / SMEs
  - Strategic Investment Action Plan (SIAP) (announced in June 2005)
- Economic Partnership Agreement (JEPA) (2008 in effect)
  - Wider version of FTA
- Cooperation for Establishing Metropolitan Priority Areas for Investment and Industry (MPAs) (2010-)



# Assistance for Investment Promotion

## *Cooperation with BKPM (Investment Coordinating Board)*

- Investment Promotion Policy Advisor
  - Expert stationed in BKPM as an advisor
  - Advice for investment policy framework and biz environment
  - Assistance for investment promotion activities (seminars, missions)
  - Investment Opportunity Studies (See next slide)
  - TOT Training for Provincial Investment Boards
  - Information Services (Guidebook, Homepage)
  - Act as a Japan desk in BKPM
- Study on Improvement of Investment Policy (2006)
  - Comparative Study with Neighboring Countries (Thailand, Viet Nam, Philippines, China) and Recommendations
  - Pilot Project (Investment Rule Book etc.)

# Investment Opportunity Studies

*(looking for “Champion Products”)*

## ■ Target

- Each province (2-4 provinces per year; 2001-2007)

## ■ Purpose

- To clarify investment climate, to identify sectors with comparative advantage and to propose some prospective business projects for potential investors

## ■ Output

- Identification of promising sectors/resources/products  
(ex. Cacao & seaweed processing for South Sulawesi)
- Investment Opportunity Report (made available to public)
- Seminar (each province & Jakarta)

# Special Economic Zone (SEZ)

## Development Master Plan Survey (2010-12)

### ■ Outputs

- Recommendation for SEZ Development Master Plan
- Proposed SEZ Development Guideline
- Capacity development of human resources and management unit organizations for SEZ development

### ■ Proposed 3 Types of SEZ

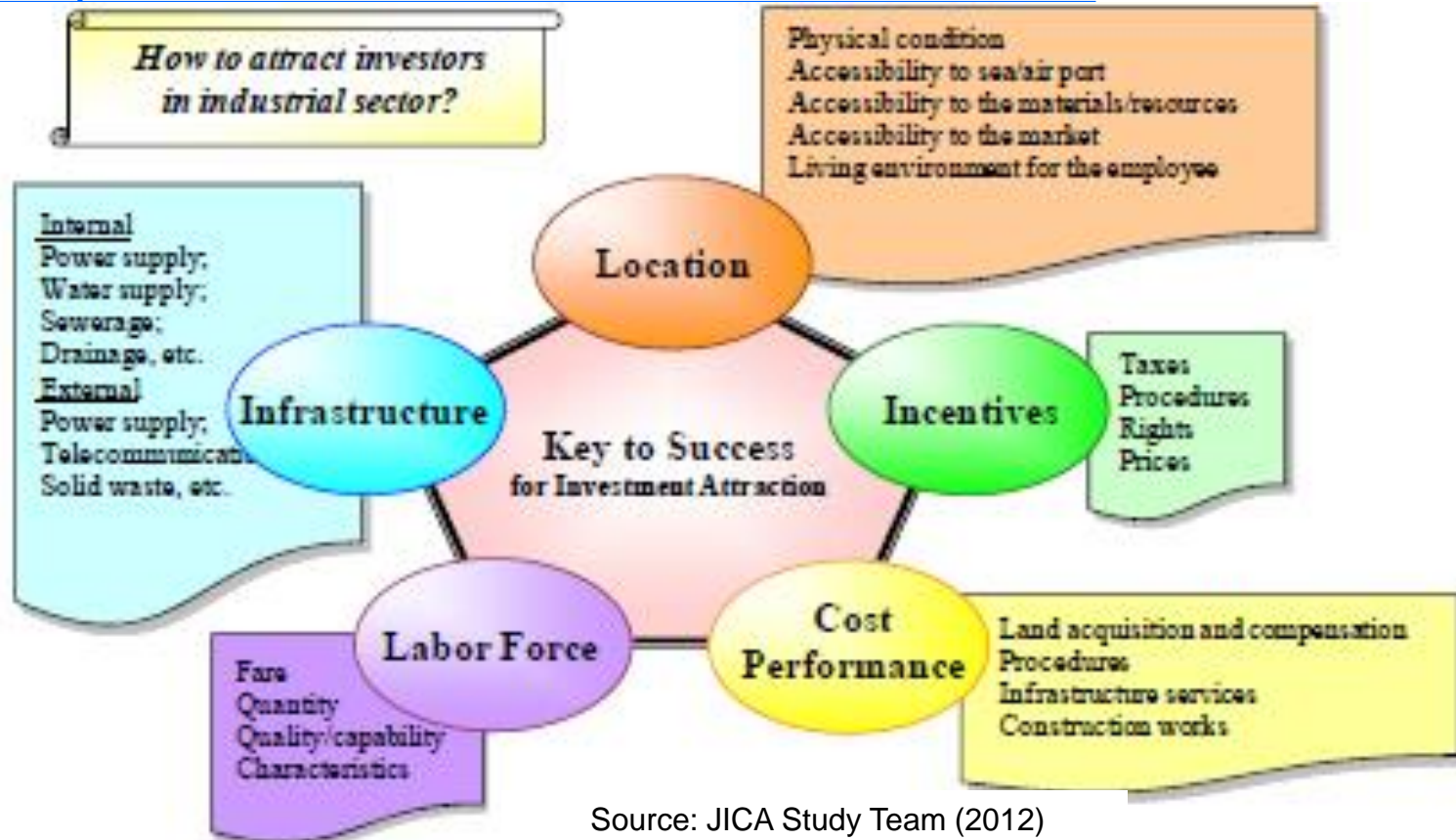
Type of SEZ	Zone/Function (based on SEZ Law No.39/2009)						
	export prc.	logistics	industry	R&D	tourism	energy	others
SEZ+	-	✓	✓	✓	✓	✓ <sup>*1</sup>	✓
Economic Center SEZ (ECSEZ)	✓	✓	✓	✓	✓	-	-
Characterized SEZ (CaSEZ)							
Mineral/Energy Resources CaSEZ	-	-	✓	-	-	✓ <sup>*2</sup>	-
Agro/Fishery/Timber Resources CaSEZ	-	-	✓	-	-	-	-
Tourism CaSEZ	-	-	-	-	✓	-	-
R&D/ ICT CaSEZ	-	-	-	✓	-	-	-
Logistics CaSEZ	-	✓	-	-	-	-	-

# SEZ Development Master Plan Survey


## SEZ Development Strategy: 3 Linkages

- Between Dom./int'l logistic sector & industrial sector
- Among domestic industries incl. supporting industries
- Between regional resources & industrial development

## Key to success for investment attraction



# Action plans proposed for IPA's capacity building in JICA Cambodia Project

<b>Actions for Investment Information Services</b>		
Action 1	Periodical update of investment guidebook	
Action 2	Periodical update of website	
Action 3	Periodical update of QIP manual for investors	
Action 4	Establishment of a library of investment-related information & data	
<b>Actions for PR Activities</b>		
Action 5	Set-up of units specialized in investment promotion of target countries	
Action 6	Improvement of investment seminar management	
Action 7	Training of provincial governments on investment promotion	
<b>Actions for Investment Consultation and Aftercare Services</b>		
Action 8	Upgrading of reception desk (Investors Desk)	
Action 9	Introduction of an investment approval tracking system	
Action 10	Establishment and capacity development of aftercare service	
<b>Actions for Policy Advocacy</b>		
Action 11	Formulation of a proposal for investment climate improvement	
<b>Actions for Organization and Management</b>		
Action 12	Preparation and implementation of organizational reform	
Action 13	Preparation of job description & job flow to enhance inv. Promo. function	
Action 14	Introduction of task management system for effective provision of service	
Action 15	Introduction of annual planning and budgeting mechanism	
Action 16	Planning and implementation of training program	



1. Technology transfer nexus: *Investment climate improvement → Investment promotion → **Technology transfer** → domestic private sector capacity development → export enhancement & import substitution.*
2. Rethinking possibility of supporting industries in Ethiopia: *Asian model pyramid-type supporting industries development for automobile/electronics assemblers may be impractical but...*
  - 1) **Wider idea of supporting industries** – *industries to serve final product manufacturers, for example, facilities, carton box, packaging, logistics etc. – may have greater opportunities*
  - 2) **Parts/components suppliers for existing manufacturers** – *for example, meta//plastic accessories for shoes, leather parts for garments, additive for food etc. – which can flexibly make and supply parts according to their needs*

# Implications to Ethiopia

3. Discovering untapped resources : *as further investment opportunities = technology transfer opportunities*
4. Export-based technology transfer: *FDI-based technology transfer, it is more realistic to consider technology transfer through foreign JV partners or buyers of export products (these could be “Champion Products”)*
5. Attraction of Japanese investment: *Considering Japanese investment, as the “quality investment” with manufacturing oriented, long-term commitment, technology transfer, employment creation etc.; domestic market prospects and labor cost/quality/discipline matter --- Kaizen will work*

# Implications to Ethiopia

6. Kaizen: *JICA Mid-term Review Team confirmed rapid diffusion of Kaizen from Addis Ababa based pilot manufacturing industries towards regional industries and various sectoral entities. It could nurture attractive base for FDI and FDI-based technology transfer.*
7. TICAD V in June 2013: *It depicted “Foreign investment adds value to the extent that it creates more employment and opportunities for local companies as well as transfer of technology.”*
8. Support for private sector’s voluntarily technology transfer: *Rather than imposing the private sector to technology transfer, it is effective to prepare the ground for the private sector’s voluntarily technology transfer (see next slides).*



# Support for private sectors voluntary TT

## ■ Father Foster Program (Perusahaan Bapak Angkat)

- Ministry of Industry's program/direction which asked state-owned enterprises (and later for foreign investors) to support small-scale enterprises by technology transfer, material supply, training etc. in 1980's&90's (for example 1-5% of their profits) (JILPT, 1995)
- It is considered it did not work properly due to mismatching, overburden for "fosters" etc.

## ■ Negative impact of obligatory technology transfer system

- Obligatory technology transfer system basically gives negative impact on effectiveness of technology transfer in manufacturing industry (Urata (1999) etc.)

## ■ Rather than obligatory technology transfer, it should be better to prepare the ground for the private sector to conduct their own technology transfer by themselves

# Support for private sectors voluntary TT

## Local content requirement

- It discouraged rather than encouraged TT and slowed productivity growth. Its policy resulted in a vertically-integrated production system within large enterprises rather than subcontracting networks dev. between large and MSMEs. (OECD Inv. Policy Review Indonesia, 2010)
- Gov. strategy shifted to using incentive measures to promote linkages instead of using compulsory requirements (ex. One-year extension of loss carry-forward if domestic parts/materials are used) (ditto)

## ■ In reality, market needs increase local content

- Even after withdraw of local content requirement, local content ratio increases
- because assemblers always look for better local suppliers, especially in terms of cost and delivery (& quality if any)
- and QCD requirement/assessment/training is real TT

# ***Amesegenalew***

# ***Thank you***



**JICA's VISION**

***“Inclusive and Dynamic Development”***

**[www.jica.go.jp](http://www.jica.go.jp)**