

Transport Improvement in Developing  
Countries and Japan's  
Official Development Assistance (ODA)  
発展途上国における交通改善と  
日本の政府開発援助(ODA)

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- Case studies (Japan's ODA in Nepal's Transport Sector)  
ケーススタディ (ネパールの交通部門における日本のODA)
- Issues and suggested policy measures  
論点と政策提言
- Issues on ODA Evaluation System  
ODAの評価システムの課題
- Conclusion 結論

# Background 背景

- ODA- important instrument for  
ODAは以下の点で重要な手段
  - Fighting poverty in developing countries  
途上国における貧困の撲滅  
(daily income of 1.2 billion population less than 1\$)
  - Ensuring global stability and prosperity  
世界の安定と繁栄
- Performance of ODA- Mixed (successes and failures)  
ODAの成果は・・・成功と失敗が混在

# Background 背景

Realization among international community

国際社会における現実

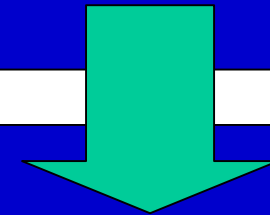
- More ODA needed (US and EU increasing ODA)  
一層のODAが必要とされている(米国とEUは増額)
- Need of a mechanism for best use of ODA  
ODAを最も効率的に運営する仕組みが必要
  - Aid with innovative ideas
  - Partnership and coordination
  - Enhancing capacity building and ownership

# Objectives 目的

Make a broad assessment of relevance and effectiveness of Japan's ODA in transport sector

交通部門における日本のODAの適切性と効率性の一般的な評価

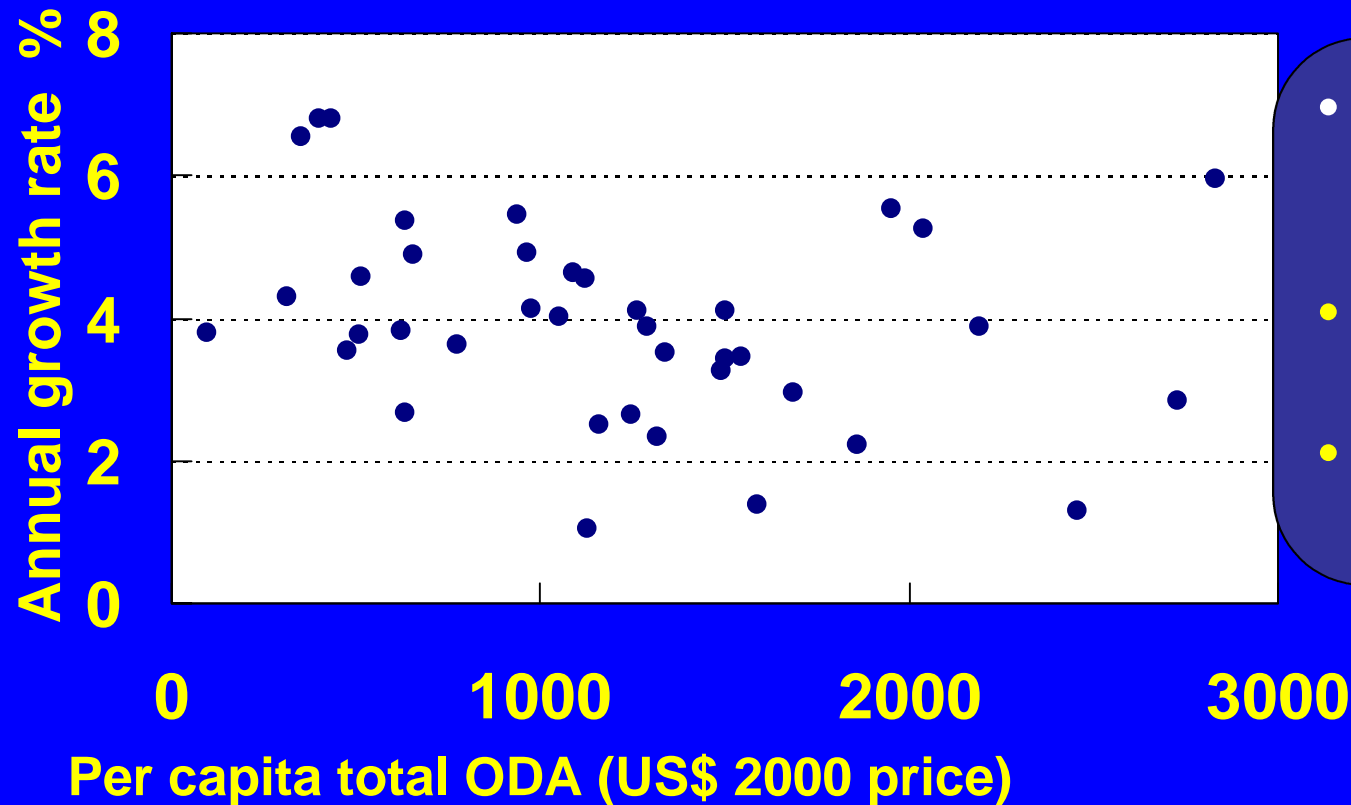
- Macro-patterns マクロパターン
- Case studies ケーススタディ



- Identify issues 論点整理
- Make policy recommendations for 政策提言
  - Improving ODA (grant-in-aid) effectiveness  
ODAの効率性改善
  - Establishing ODA Evaluation system  
ODA評価システムの確立

## Growth rate and total ODA per capita 1970~2000

### 成長率と一人あたりODA額の関係 1970-2000

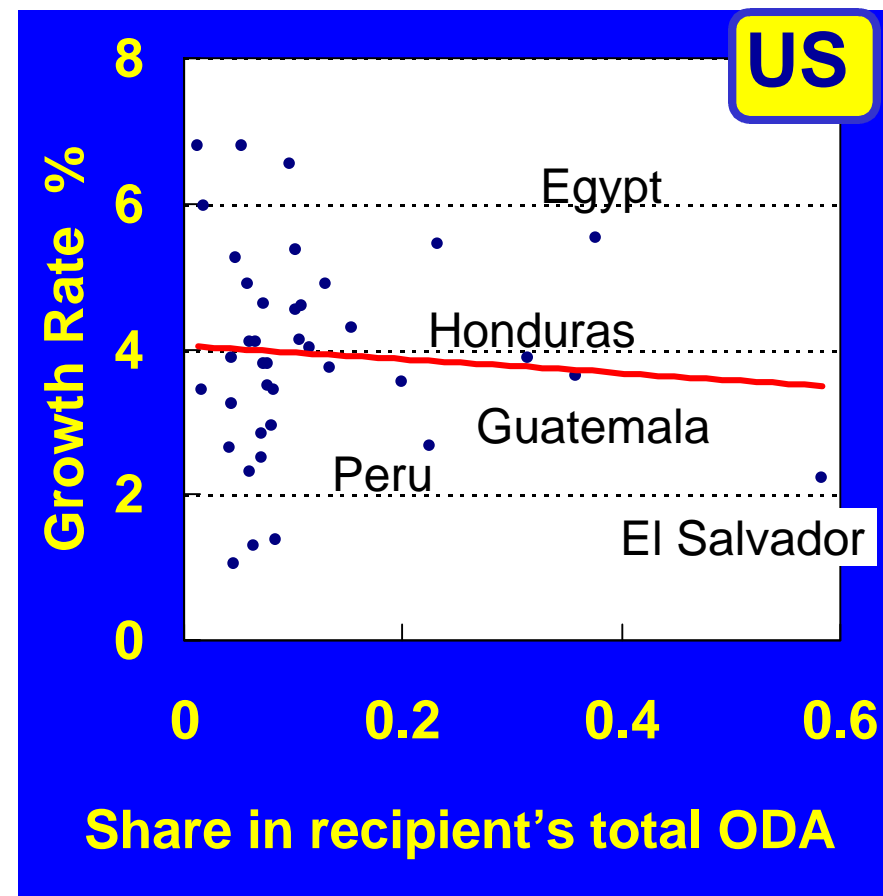
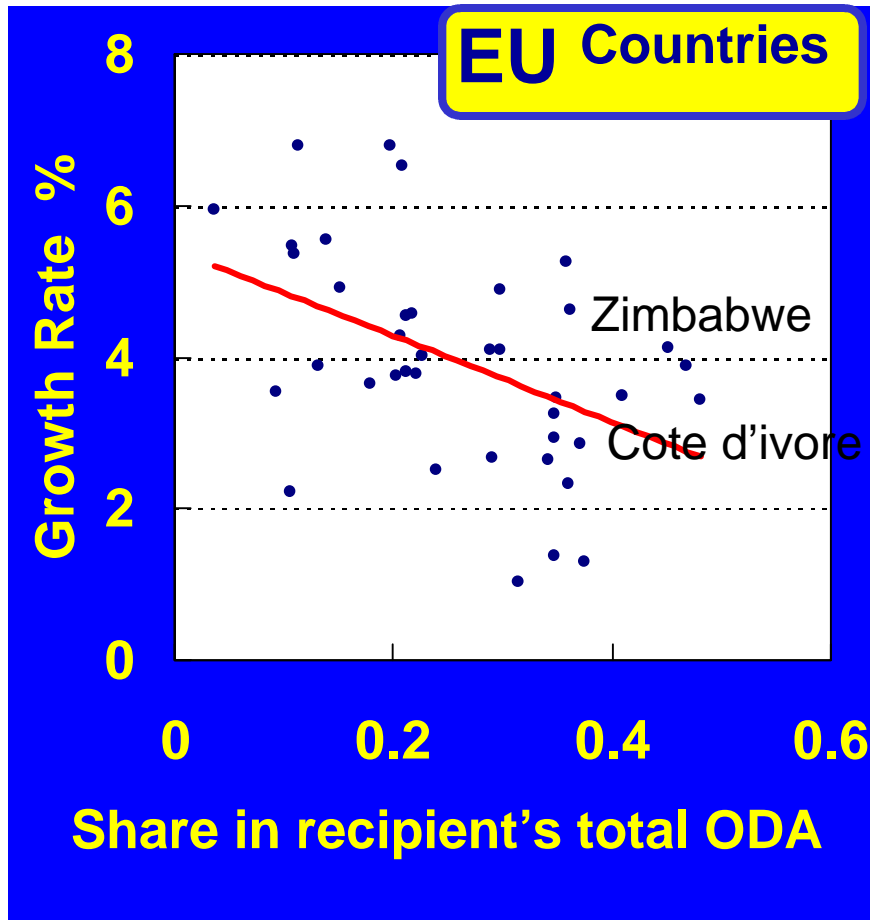


- 39 Developing Countries (except India, China)
- Population > 5 million
- GNP per capita in 1970 < 600 US\$

- Does not show any significant relationship
- Need to look at more disaggregate patterns

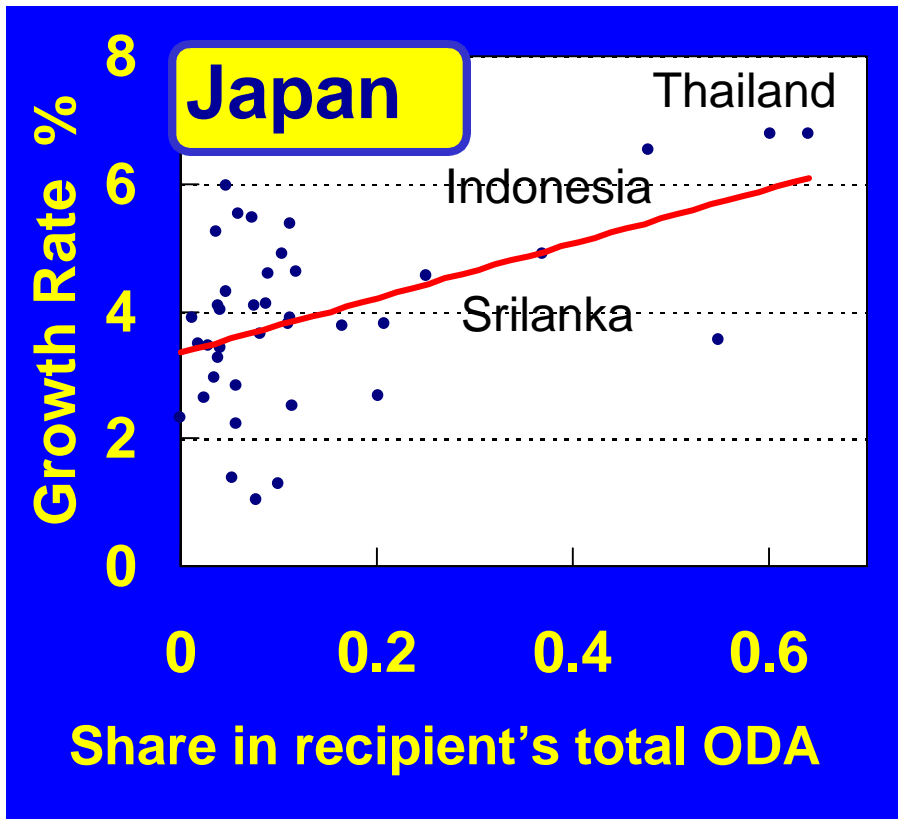
# Donors' share in a country's total ODA and growth rate-1

## 援助国別のODAシェアと被援助国の成長率 1970-2000



**EU countries ODA focus: African Countries**  
**US ODA focus: Latin American and Middle Eastern**

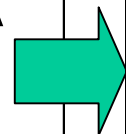
## Donors' share in a country's total ODA and growth rate-2 援助国別のODAシェアと被援助国の成長率 1970-2000



Independent variable:  
**Annual growth rate (%)**

	Coeff	T-stat
ODA pc	0.001	0.2
Grant (%)	-3.9	-2.0 ✓
Japan %	3.2	2.3 ✓
EU %	-4.8	-2.1 ✓
US %	-0.65	-0.4

Is Japan's ODA  
Selective ? Or  
Effective?

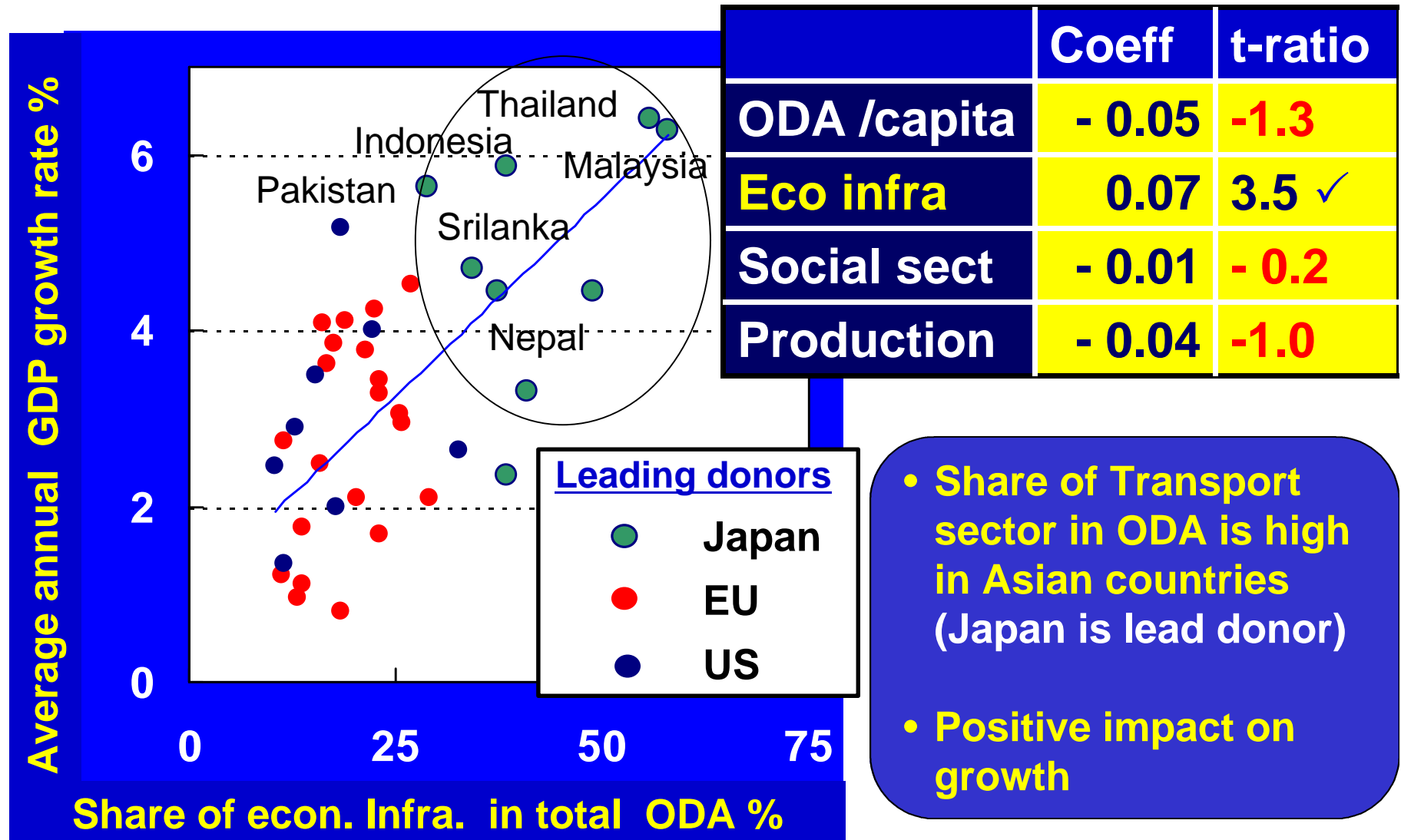


Japan's ODA,  
• to Asian countries with good policies  
• High impact on growth



# ODA for economic infra. and economic growth

## 経済的なインフラのためODAと経済成長 (1980-2000)



# Summary of macro-level patterns

## マクロパターン分析の要点

Macro-patterns- not causal relationship, still provides some useful insights, such as:

- Japan's ODA - relatively more effective  
日本のODAは相対的に効率的
- Japan's ODA - significant role for economic infrastructure in fast growing Asian countries.  
急速に成長するアジア諸国の経済インフラとして重要な役割

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**Case studies**  
**Japan's ODA in Nepal's Transport Sector**  
**ケーススタディ**  
**ネパールの交通部門における日本のODA**

**Kathmandu International Airport Modernization Project**

**カトマンドゥ国際空港空整備計画 (レーダー設備)**

**completed**

**Shindhuli Road project, Nepal**

**シンズリ道路建設計画**

**On-going**

**Kathmandu Intersections Improvement Project**

**交差点整備プロジェクト**

**On-going**

**All three projects implemented under Japan's Grant-in-aid scheme** すべての3つのプロジェクトは日本の無償資金のもとで実施される

# Kathmandu International Airport Modernization Project

## カトマンドゥ国際空港空整備計画（レーダー設備）

### Background



- Kathmandu Airport: at an altitude of 1338 m
- One runway (length: 3050 m)

# Kathmandu International Airport Modernization Project

## カトマンドゥ国際空港空整備計画 (レーダー設備)

### Background

- Annual flights: International - 8,000  
Domestic 57,000
- Airport- surrounded by 2000-3000m high mountains:  
Landing, take-off difficult

空港: 2~3千メートル級の山に囲まれ離着陸困難

- No radar system

レーダーシステムなし

- Two major accidents in 1992 (THAI and PIA, Japanese casualties:25)

1992年の2件の大事故(日本人25名負傷)

Relevance: Very high

- High priority
- Technology oriented

# Kathmandu International Airport Modernization Project

## カトマンドゥ国際空港空整備計画 (レーダー設備)

### First Phase (1995-97)

- Radar Installation
- Build training facilities
- Technology transfer
- **Total cost 34 億円**

Relied on existing,

- Power supply system
- Communication system

Problems...

### 1.5 Phase (1999-2001)

Radar related

- Power supply system
- Air-traffic control
- Training
- **Total cost 12 億円**



# Kathmandu International Airport Modernization Project

## カトマンドゥ国際空港空整備計画 (レーダー設備)

### Outputs 成果

#### Physical facilities built (latest technology) for

- Rader system
- Stand-by power supply system
- Communication system
- Radar training center

#### Technology transfer

- Rader training (15)
- Air traffic controller (14)





# カトマンドゥ国際空港空整備計画（レーダー設備）....

## Impacts 効果

- Radar system fully operational **since 1998**
- Enhanced overall air safety **航空保安の向上**
- Improved air traffic control **航空管制の改善**
- **24 hour** airport operation possible
- Improved institutional capacity **組織能力の改善**
  - Technical management **技術管理**
  - In-house training **訓練**
  - Technical operation **テクニカルオペレーション**



# Kathmandu International Airport Modernization Project

## カトマンドゥ国際空港空整備計画 (レーダー設備)

### Problems and issues 問題と論点

- Why 1.5 phase? Inadequate project study in the first phase?  
なぜ1.5 段階？不十分な調査？
- Lack of maintenance budget (recipient)  
維持管理予算の欠如
  - Genuine resource constrains 予算制約
  - Strategic behavior (moral hazards)  
戦略的行動(モラルハザード)

# Shindhuli Road project, Nepal

## シンズリ道路建設計画

### Location maps

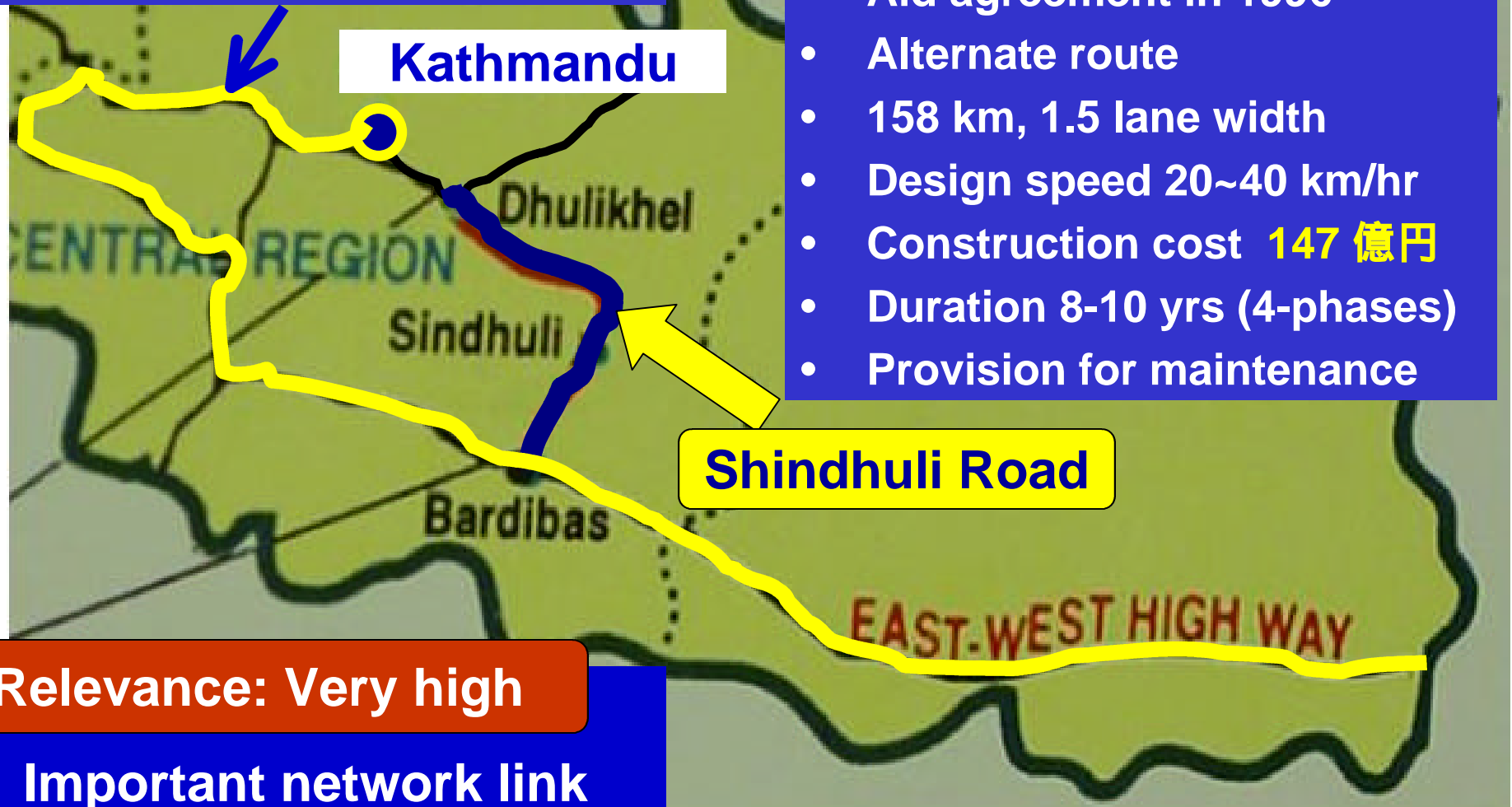


## Background

- Only one access route
- 100 % capacity (3000 veh/day)

## Shindhuli Road project, Nepal シンズリ道路建設計画

- Aid agreement in 1996
- Alternate route
- 158 km, 1.5 lane width
- Design speed 20~40 km/hr
- Construction cost 147 億円
- Duration 8-10 yrs (4-phases)
- Provision for maintenance



## Relevance: Very high

- Important network link
- Passes through backward areas- poverty reduction effects

## Shindhuli Road project, Nepal シンズリ道路建設計画

### Potential outputs/impacts 将来的な成果・効果

- Alternative lifeline of Katmandu  
カトマンズのライフラインの強化
- Reduces travel distance by 200 km for 30,000 daily passengers from Eastern Nepal to Kathmandu  
ネパール東部からカトマンズまでの距離を200km短縮
- Provides basic access to 1.2 million people along the route  
沿道人口120万人の地域への交通基盤
- Capacity strengthening for maintenance (equipment supply)  
維持管理体制の強化

### Potential outputs/impacts 将来的な成果・効果

- Significant socio-economic impact (42 % people poor)  
社会経済的效果
  - Market access for local agriculture products
  - Opportunities for health and education service
  - Employment effects in project area
  - Significant poverty reduction effect
- Skill transfer (in-house training, work experience)
  - Managers/Engineers: (Jap. 25% , **local-75%,**)
  - Technicians: **Local 100 %**
  - Labors: **Local 100%**

## Issues/problems 論点・問題点

- “Weak participation” of recipient agency (only 2 engineers are directly involved)  
被援助機関の不十分な参加(直接関与したのは2名の技術者のみ)
- Consultant is having overriding responsibility  
コンサルタントの過大な責務
- Local subcontractor just for man-power supply  
地元企業の役割は労働供給のみ
- Recipient lacks a framework to translate individual skill transfer into organizational capacity  
被援助国における個人技能を組織能力向上へ利用する枠組みの欠如



# Shindhuli Road project, Nepal シンズリ道路建設計画

## Issues/problems 論点・問題点

- Machine-based techniques preferred for civil works  
土木事業における機械技術の選好

- Relatively high cost of construction  
高い費用

## Cost of 1 km standard Gravel road





# Kathmandu Intersections Improvement Project

## 交差点整備プロジェクト

### Background

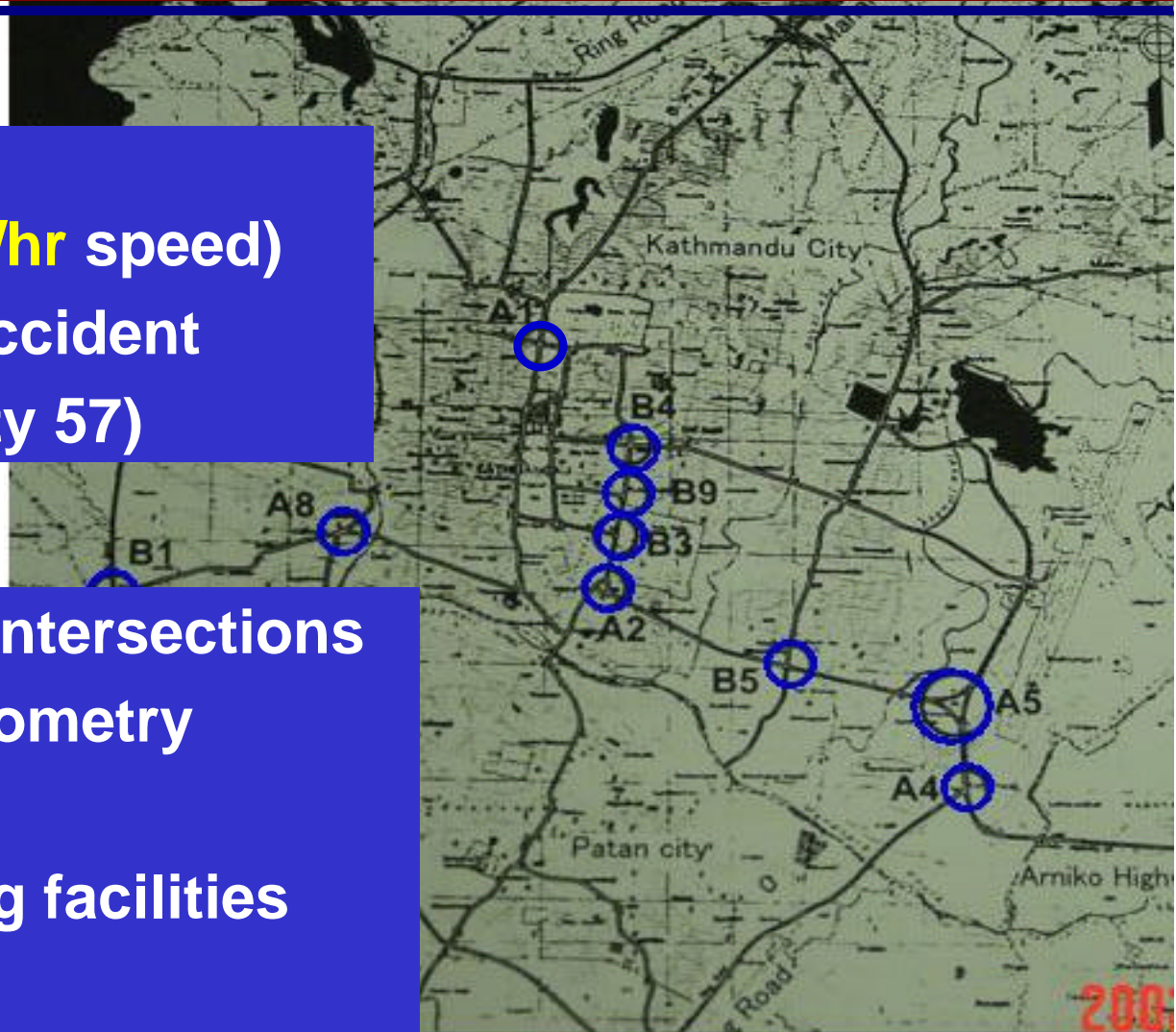
- Congestion (**10 km/hr** speed)
- Increasing traffic accident  
(in 2000, 790, fatality 57)

Target: 10 bottleneck intersections

- Improvement of geometry
- Signal installation
- Pedestrian crossing facilities

**Total cost: 10 億円**

**Duration: 2002~2003**



ork in Kathmandu City

# Kathmandu Intersections Improvement Project

## 交差点整備プロジェクト



### Special consideration

- Solar powered signals
- LED signals (new technology)
  - Saves 60% energy
  - 20 years life span
- Programs for public awareness  
(Media advertisement, posters etc)



## Potential outputs/impacts 将来的な成果・効果

- Improvement of 10 intersection in Kathmandu city (covering **48,000 vehicles/hour** during peak hour)
- Direct benefits to 1.1 million people of Kathmandu
  - Improved traffic flow, less pollution
  - Enhanced traffic safety
- Energy saving and easy-to-maintain technology
- Higher public awareness about traffic rules
  - Traffic police, drivers, pedestrians
- Skill transfer (in-house training, work experience)
  - Managers/Engineers: (Japanese 10% , local-90%)
  - Technicians: Local 100 %
  - Labors: Local 100%

## Issues/problems 論点・問題点

- Relatively high sense of “ownership” by recipient but had little role over design decision.  
被援助国の高い当事者意識, 設計への関与の低さ
- Need of frequent design changes- design based on incomplete information  
柔軟な設計・・・不完全な情報に基づく設計
- Due to Lump-sum contact, contractor's unwillingness to accept cost increasing design changes  
定額契約・・・費用増加を伴う設計変更に消極的

## Summary on case studies

- All three projects are very relevant and generally successful in terms of output and impacts.  
全ての事例は、成果と効果という点で適切であり成功したといえる。
- The observed issues/problems are due to 問題点と論点
  - The inappropriate provisions in Grant-in-aid implementation guidelines (Major)  
供与のガイドラインが適切でない
  - Lack of capacity and ownership of recipient (Major) 被援助国の能力と当事者意識が欠如
  - Shortcomings of consultant/contactors (Minor)  
コンサルタントの欠点

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# Issues and suggested policy measures 論点と政策提言

<b>Issues</b> <b>論点</b>	<b>1. Weak participation of recipient's agencies</b> <b>被援助機関の参加の弱さ</b>	<b>2. Lack of maintenance of facilities built by ODA</b> <b>ODAで建設された施設の維持管理の欠如</b>
<b>Measures</b> <b>方策</b>	<ul style="list-style-type: none"> <li>• Involve the recipient actively in the <u>process</u> of project design and implementation</li> <li>• Promote a sense of partnership to enhance ownership</li> </ul>	<ul style="list-style-type: none"> <li>• Make a long-term maintenance plan and obtain recipient's full commitment</li> <li>• Use of appropriate technology</li> </ul>



# Issues and suggested policy measures 論点と政策提言

<b>Issues</b> <b>論点</b>	<b>3. Lack of framework to build institutional capacity</b> <b>組織的能力形成の枠組みの欠如</b>	<b>4. High cost of Japan's ODA projects</b> <b>高コストな日本のODA事業</b>
<b>Measures</b> <b>方策</b>	<ul style="list-style-type: none"> <li>• Formulate capacity building components in combination with hardware project</li> <li>• Put emphasis on learning-by-doing approach</li> </ul>	<ul style="list-style-type: none"> <li>• Involve local contract <i>formally</i> for technically less sophisticated components of civil works</li> <li>• Avoid lump-sum contracting for civil works</li> </ul>

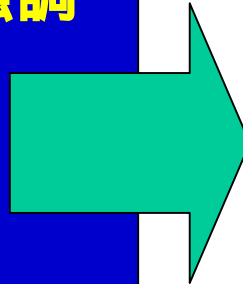


# Need to make drastic shift in ODA management philosophy: ODA運営哲学の変革が求められている

Presently emphasis on:  
micro-management

現状、ミクロな運営の強調

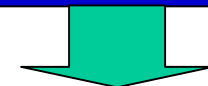
- Project activities  
事業活動
- Work quality 労働の質
- Time schedule  
時間管理



Emphasis should be on:  
macro-management

マクロな運営の強調

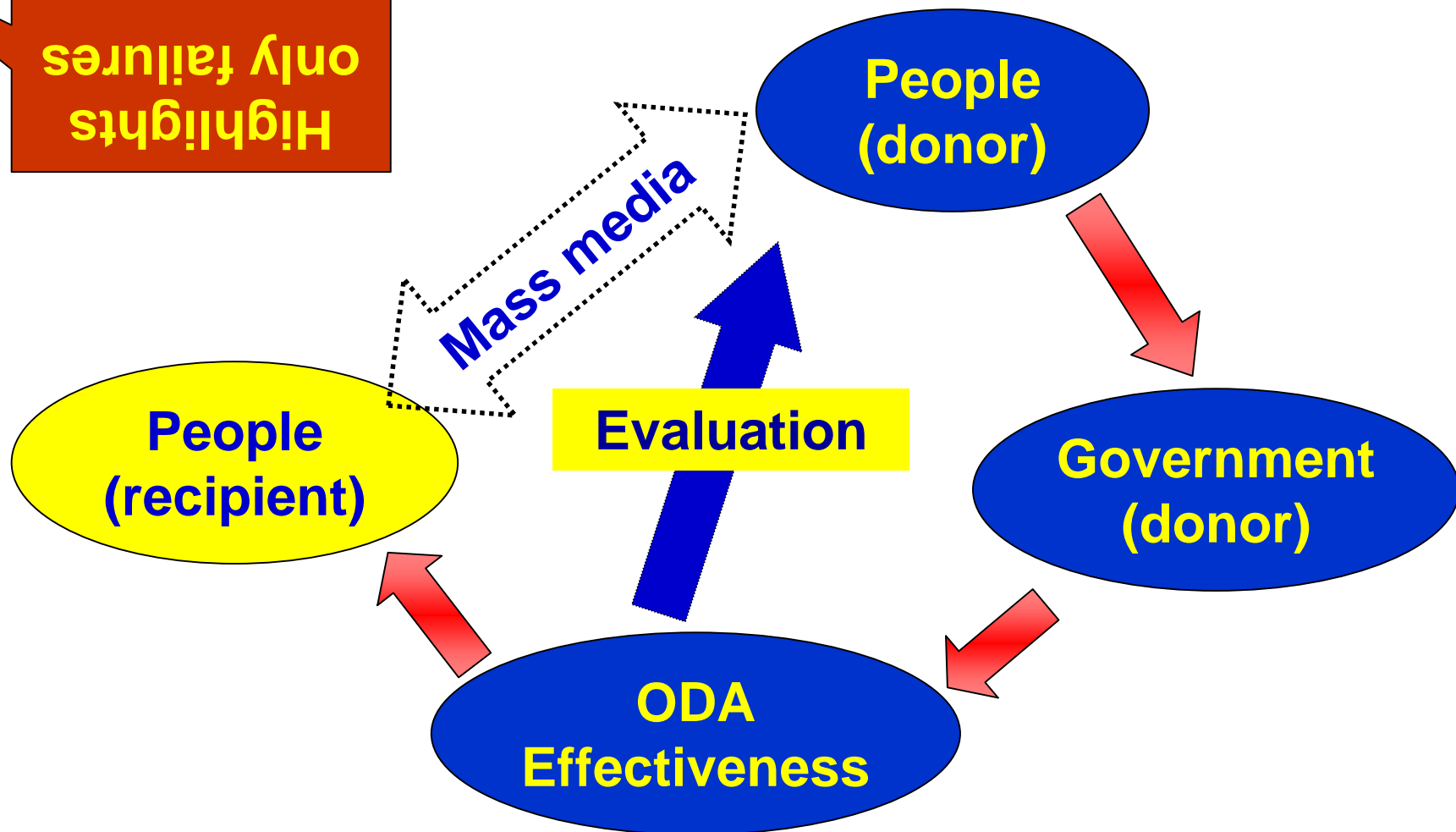
- Policy dialogue  
政策に関する議論
- Sectoral coordination  
部門間の調整
- Donor coordination  
援助国間の調整



Decentralization to country offices 現地事務所への分権

# ODA Evaluation ODAの評価

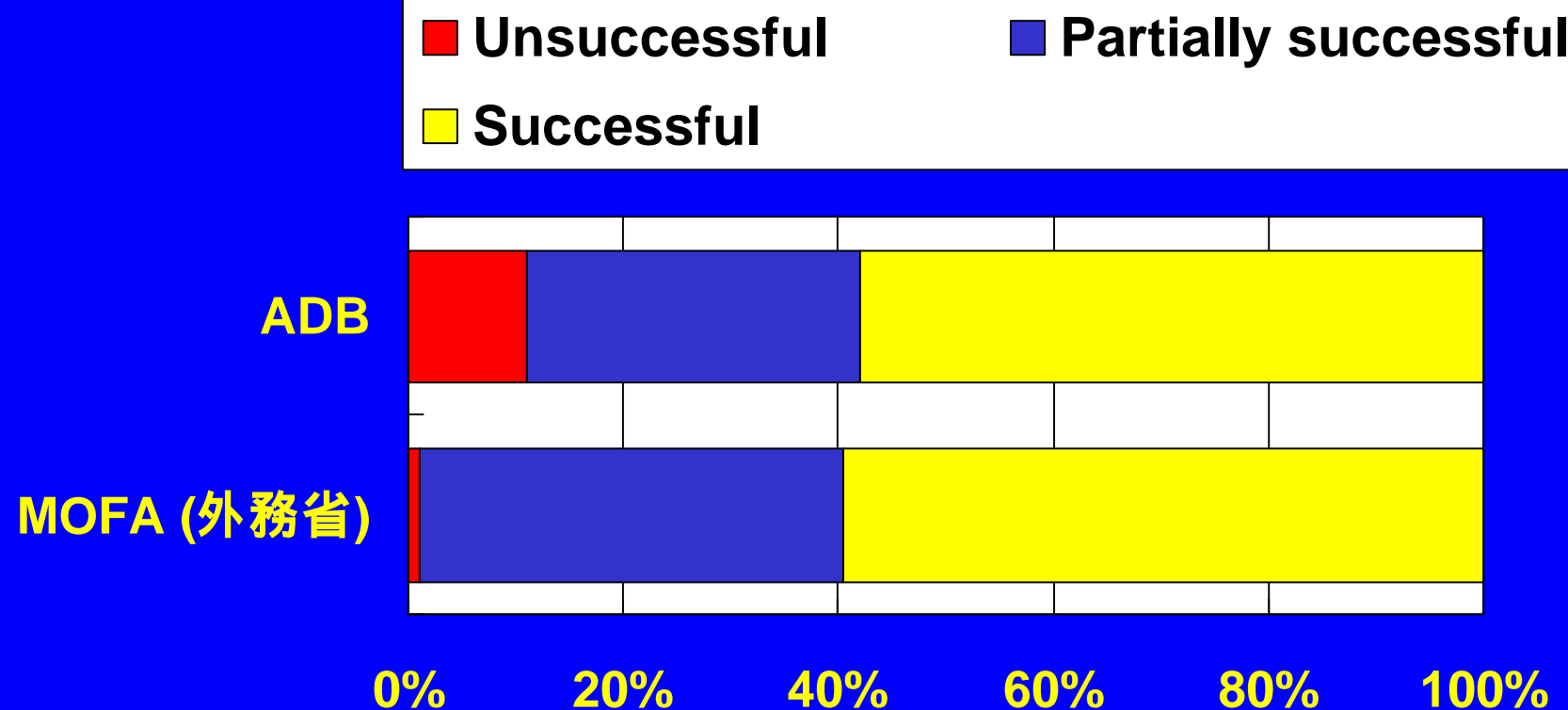
Highlights  
only failures



Operation of ODA System

# Evaluation results of MOFA and Asian Development Bank

## 外務省とADBの評価結果の比較



Bilateral donors' reluctance to report failure cases in evaluation reports undermines the credibility of report

失敗したという評価を避けることは、評価の信頼性を損なう

# Issues for an effective system for ODA evaluation

## ODA評価の効果的な枠組み

### 1. Appropriate institutional setting (to avoid conflict of interest)

- Ex-ante 事前評価
- Interim 中間評
- Terminal 終了時評価

#### Executing agencies of

- Donor
- Recipient

#### Ex-post 事後評価

- Participatory
- Research oriented  
(should be more than an administrative exercise)

#### Independent entity with participation of

独立性は以下の機関の参加を促す

- Academics 大学
- Research institutes 研究機関
- NGOs and other groups
- Beneficiaries (recipients) 受益者

# Issues for an effective system for ODA evaluation

## ODA評価の効果的な枠組み

2. Obtaining unbiased information 偏りのない情報の獲得
  - Important information might be in qualitative form
  - Recipients' attitude of “pleasing donor”
3. A scientific and standardized approach 科学的かつ調和的アプローチ
4. Making use of evaluation feedbacks 評価のフィードバック
5. Distinction should be made for possible source of problems, 問題の原因の明確化
  - Institutional constraints 組織的制約
  - Policy barriers 政治的障壁
  - Shortcoming of actors 参加主体の欠点

## Conclusion 結論

- Overall, Japan's ODA in transport sector is effective  
交通部門における日本のODAは全体的には効果的である
- Guidelines for Grant-in-aid schemes need to be reformed to further improve effectiveness  
更なる効率化のために助成金のガイドラインを改善することが必要
  - Shift from Micro-management to Macro-management
  - Encourage recipient to take lead role (in design and implementation)
  - Cost efficiency by using local resources
- Need of an independent ODA evaluation system  
独立的なODA評価システムが必要