Construction Industry Development Comparison & Acceleration – 'CIDCA' *

- Introduction -

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HKU Research Project funded by Research Grants Council, Hong Kong, entitled: "EVALUATING 'CONSTRUCTION INDUSTRY DEVELOPMENT' PROGRAMMES IN HONG KONG, SINGAPORE AND UK"

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Research Aim and Objectives

Aim:

- An Independent and Comparative assessment of **Industry Improvement trajectories** - following (but not limited to) recent high profile reform recommendations in **HK Singapore and UK** (led by HKU, National University of Singapore and University of Reading)

Overall Objectives:

- To evaluate the **effectiveness** of the industry improvement programmes against their original objectives, while discounting / allowing for (i) industry development trends that may have continued even without reform inputs and (ii) changing aspirations, priorities and concerns
- To unravel **reasons** for any perceived shortfalls in the above implementation and to unearth any **root causes**, with particular reference to relevant **public agencies *and* private organizations** involved; and
- To **learn lessons** that could help to improve **future industry development agendas** and re-align **current development trajectories**.

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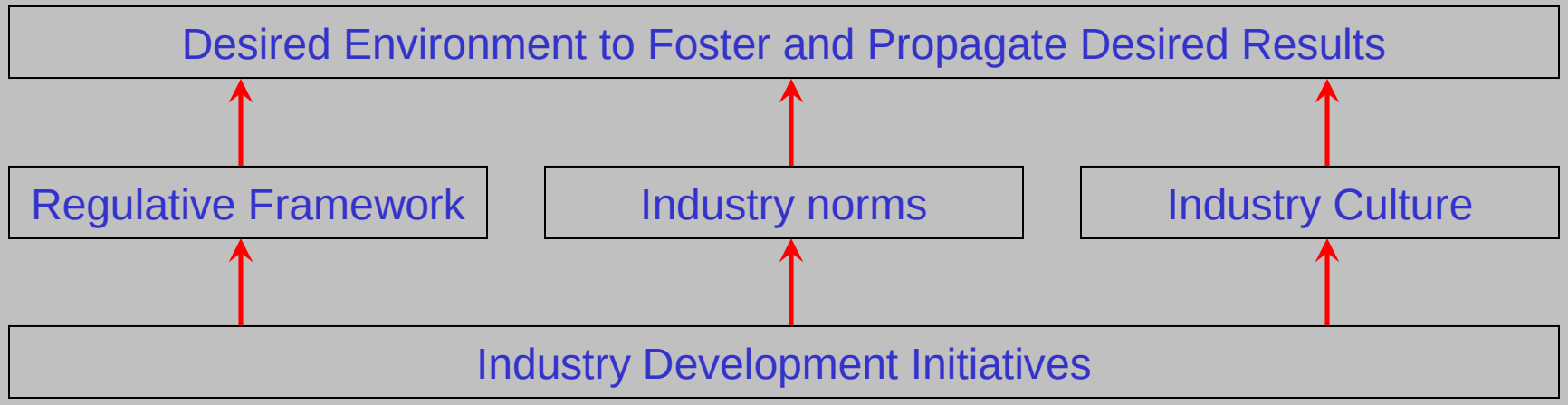
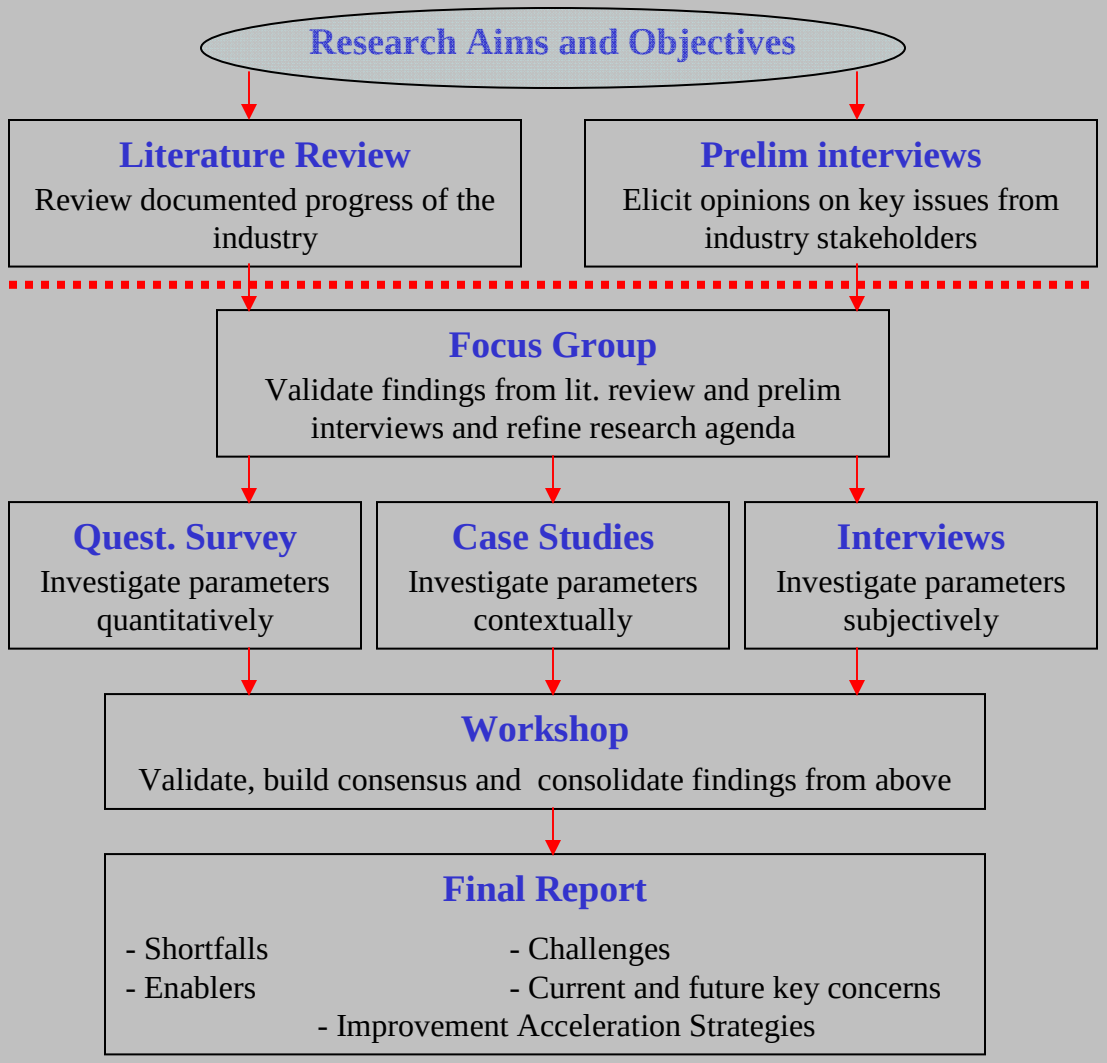
Research Philosophy

- Industry development initiatives are dependent on stakeholder institutions for implementation
- Institutional behaviour is influenced by prevalent regulative framework, industry norms and culture (Three Pillars of Institutional Theory)
- Industry development initiatives generally aim for positive changes in above three pillars to influence desired institutional behavior
- Regulation is (in this context) usually a last resort and the aim of the regulation should be to shape the industry norms and culture appropriately



Research Methodology



CIDCA: Research Findings To Date

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CIRC Recommendations

CIRC REPORT RECOMMENDATIONS

Setting Up Institutional framework for driving reforms

Review Setup for Implementation Progress

Fostering Quality Culture

-A knowledgeable and involved client
-Importance of the planning and design stages
-Realistic project programming
-Clear accountability
-Subcontracting
-Site supervision and quality assurance
-Raising the quality standard of renovation contractors and decorators

Safer workplace

-Designing for construction safety and integrated management
-Safety promotion and training
-Incentives for sound safety management
-Enhanced enforcement

Environmentally responsible Industry

-Life-cycle costing
-Greener and more energy efficient designs
-Abatement of environmental nuisance during construction
-Reduction and management of construction and demolition material
-Environmental assessment schemes and environmental management systems

An Efficient, Innovative and Productive Industry

-Process re-engineering to achieve better integration
-Wider use of: (i) standardisation in component design and processes, (ii) prefabrication, (iii) ICT in project implementation
-Investment in R&D
-More reliable records of underground utilities

Achieving Value in Construction Procurement

-Selection of contractors and consultants
-Effective risk management and equitable contracting arrangements
-Dispute resolution
-Partnering approach
-Incentives for the project team to achieve better value

Nurturing a Professional Workforce

-Improved and structured training programme
-Promote use of direct labour
-Foster an ethical culture
-Promote industry professionals participation in teaching

Fostering Quality Culture

Regulative Changes
-Subcontracting

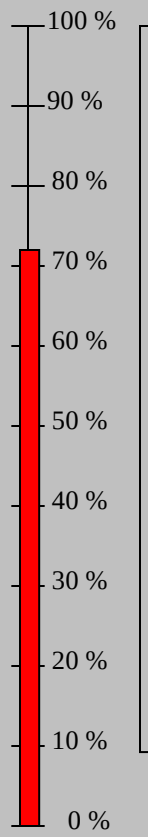
→ -Substantial progress seen in the form of voluntary registration
-Delays in moving to the next stage (mandatory)

Normative Changes
-A knowledgeable and involved client
-Importance of the planning and design stages
-Realistic project programming
-Site supervision and quality assurance
-Raising the quality standard of renovation contractors and decorators

→ -Progress is satisfactory but limited to large clients
-Project programming problems acknowledged, but persist, especially in private sector
-Supervision has improved to a great extent
-Renovation contractors are still a concern

Cultural Changes
-Clear accountability

→ -Accountability standards have improved



Key Challenges
-Sustainable work load
-Sustainability of workforce and their skill levels
-Pressure groups and economic realities

Key Drivers
-A committed and enlightened client
-A supportive procurement strategy
-A supportive main contractor

Value Through Construction Procurement

Regulative Changes
-Dispute resolution

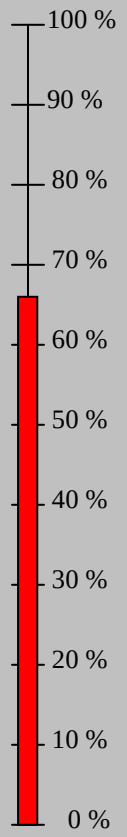
→ -Progress in use of ADR's
-Arbitration law changes under consideration

Normative Changes
-Selection of contractors and consultants
-Effective risk management and equitable contracting arrangements

→ -Alternative procurement methods tested primarily as pilot projects in public sector and for complex projects in pvt. sector; not in extensive use.
-Technical and price bids adopted extensively in public sector but, stakeholders skeptical of its impact
-Review of GCC conditions was cursory
-Improved risk management practices

Cultural Changes
-Partnering approach
-Incentives for the project team to achieve better value

→ -Partnering delivers on value, but limited to leading players and stakeholders
-Incentive initiatives present but not prevalent



Key Challenges
-Public sector procurement constraints
-Tender selection methodology
-Industry culture

Key Drivers
-A committed and enlightened client
-Incentives to stakeholders
-Equitable contracting arrangements

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Workplace Safety & Environmentally Responsible Industry

Regulative Changes
-Enhanced enforcement
-Safety promotion and training
-Environmental assessment schemes and environmental management Systems
-Charge for waste disposal

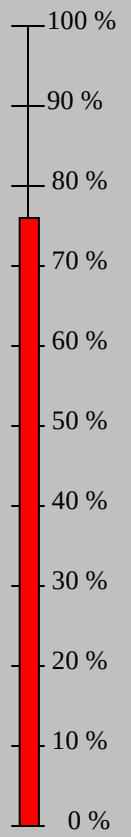
→ -Clear progress over the last decade, reduction in accidents but a tangible increase in fatalities
-Clear emphasis on safety regulations
-Substantial progress in env. managemet systems and assessment schemes

Normative Changes
-Life-cycle costing
-Greener and more energy efficient designs

→ -Significant improvement in work place conditions
-Slow progress in embracing lifecycle costing approach
-Green initiatives abundant and expected to get fillip from Govt. assessment schemes
-Boost in the form of green building council

Cultural Changes
-Incentives for sound safety management
-Abatement of environmental nuisance during construction
-Reduction and management of construction and demolition material

→ -Pay for safety a success story that needs to be replicated in pvt. Sector
-Award schemes a clear incentive
-Satisfactory progress in pollution control and waste management practices



Key Challenges
-Work place conditions especially in small sites
-Reduction of cost for alternative green technologies
-Existing building upgrades

Key Drivers
-Payment or incentives (including recognition) for both for safety and green initiatives
-Worker training and proper planning
-Integration of construction and maintenance activities

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Nurturing a Professional Workforce

Regulative Changes
-Improved and structured training programme

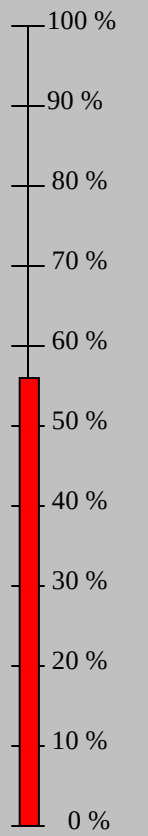
→ -Progress by means of workers registration scheme
-Curriculum development in progress
-Upgrading skills of old age workers and attracting youth to bolster workforce a significant problem

Normative Changes
- Promote use of direct labour

→ -Slightly improved but far from satisfactory

Cultural Changes
-Foster an ethical culture
-Promote industry professionals participation in teaching

→ -Targeted through training and guidelines
-Reliant on professional institutions for follow up action



Key Challenges
-Attracting new talent into workforce
-Training cost absorption
-Aging works force

Key Drivers
-Improved image of the industry
-Incentives for upgrading skills
-On-job training

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Efficient, Innovative and Productive Industry

Regulative Changes
-Facilitating regulators

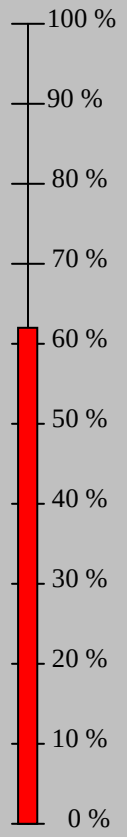
→ -Standard codes updated and ongoing
-Fragmented and numerous statutory bodies an issue

Normative Changes
-Process re-engineering to achieve better integration
-Wider use of: (i) standardisation in component design and processes, (ii) prefabrication, (iii) ICT in project implementation
-Investment in R&D
-More reliable records of underground utilities

→ -Integrated procurement piloted but not prevalent
-Improvement in standardisation and use of prefabrication
-ICT in project implementation picking up but not prevalent
-Information accessible but accuracy is a problem
-Investment in R&D is ad hoc and needs streamlining

Cultural Changes
-Tap export potential of the industry

→ -HK developing as a strong contender for arbitration in Asia



Key Challenges
-Streamlining and expediting approvals
-Upgrading workforce skill sets
-Quality assurance in offsite manufacturing

Key Drivers
-Incentivising innovations
-Streamlining R&D investments
-Shared costs of ICT implementation

Mandatory Vs Voluntary

- Mandatory (Regulative) initiatives have found more traction and success in implementation
- Voluntary initiatives propagation through guidelines/ best practices are limited to industry leaders

Public Vs Private

- Some reforms may be easier to implement in public sector of HK (Given large share of public sector projects)
- Public sector more driven by extrinsic pressures towards reforms while private sector prefers intrinsic pressure
- Private sector (except for leading developers and contractors) is slow in picking up the initiatives

Role of Professional Institutions and Trade Assns.

- Fragmentation is still rampant; but improved with CIC as a platform
- Clear role in:

  -Reform formulation

  -Reform propagation

  -Encouraging members to buy into reforms

  -Regulating member's behaviour

- Satisfactory in participation but clear shortfalls in propagation
- Evident shortfalls in updating their charters and codes in rapidly changing industry environment and culture

Implementing Reforms in Projects, Organisations and Industry

- Easier to deliver normative and cultural changes in project environment than organizational and industry environment
  - Selling a reform is the key in organization and industry settings
  - Buying into the reform is the key in project settings
- Top-down approach suitable for capital intensive initiatives and innovations while bottom-up approach recommended for incremental changes
- Consensus and commitment is essential for industry-wide reforms

Key Concerns and Issues

- Sustainable workload
- Improved image of the industry
- Attracting new entrants to work force and upgrading skill sets of existing workforce
- Protecting local industry
- Payment guarantees (Regulating developers/ private sector)
- Speedy dispute resolution (Amendments to arbitration clause)
- Regulating renovation contractors
- Sustaining alternative procurement initiatives
- Promoting cross pollination of industry improvement initiatives

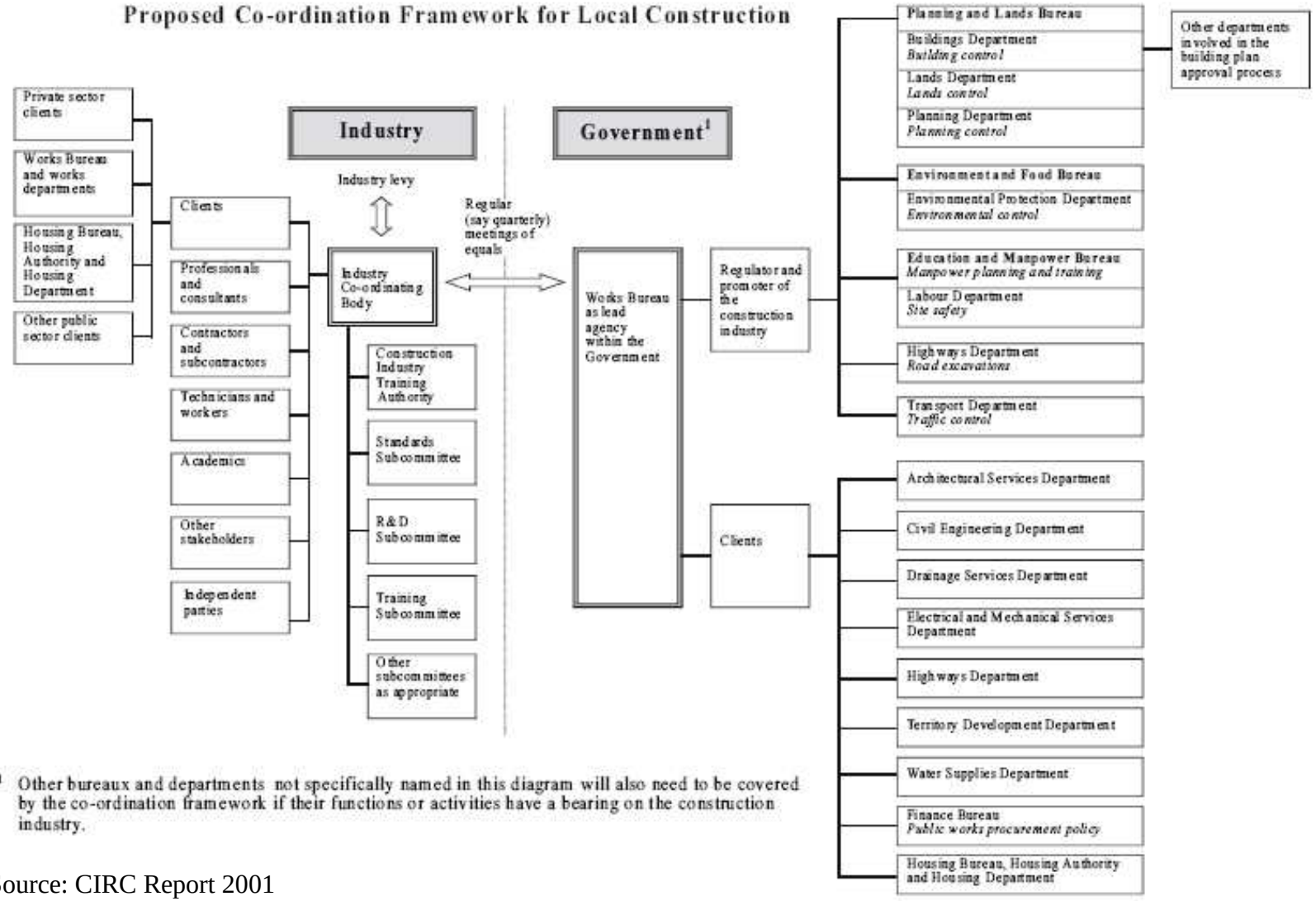
Conclusions

- Overall progress is satisfactory
- Clear shortfalls in workforce nurturing and fostering innovations
- Sustainable workload is a root cause for shortfalls
- Public sector quick on the uptake of initiatives, but short on following up
- Private sector enthusiastic, but slow in embracing cost intensive and potentially ‘risky’ changes

Q & A

Refreshment Break

Focus 1: Institutional Framework in the Context of Reforms



[1] Other bureaux and departments not specifically named in this diagram will also need to be covered by the co-ordination framework if their functions or activities have a bearing on the construction industry.

Source: CIRC Report 2001

Focus 2: Key Drivers of Construction Industry Reforms

CIRC REPORT RECOMMENDATIONS

Setting Up Institutional framework for driving reforms
-Continued support of industry stakeholders

Review Setup for Implementation Progress
-Quality feedback from the industry

Fostering Quality Culture
-A committed and enlightened client
-A supportive procurement strategy
-A supportive main contractor

Safer Workplace and Environmentally Responsible Industry
-Payment or incentives (including recognition) for both safety and green initiatives
-Worker training and proper planning
-Integration of construction and maintenance activities

An Efficient, Innovative and Productive Industry
-Incentivising innovations
-Streamlining R&D investments
-Shared costs of ICT implementation

Achieving Value in Construction Procurement
-A committed and enlightened client
-Incentives to stakeholders
-Equitable contracting arrangements

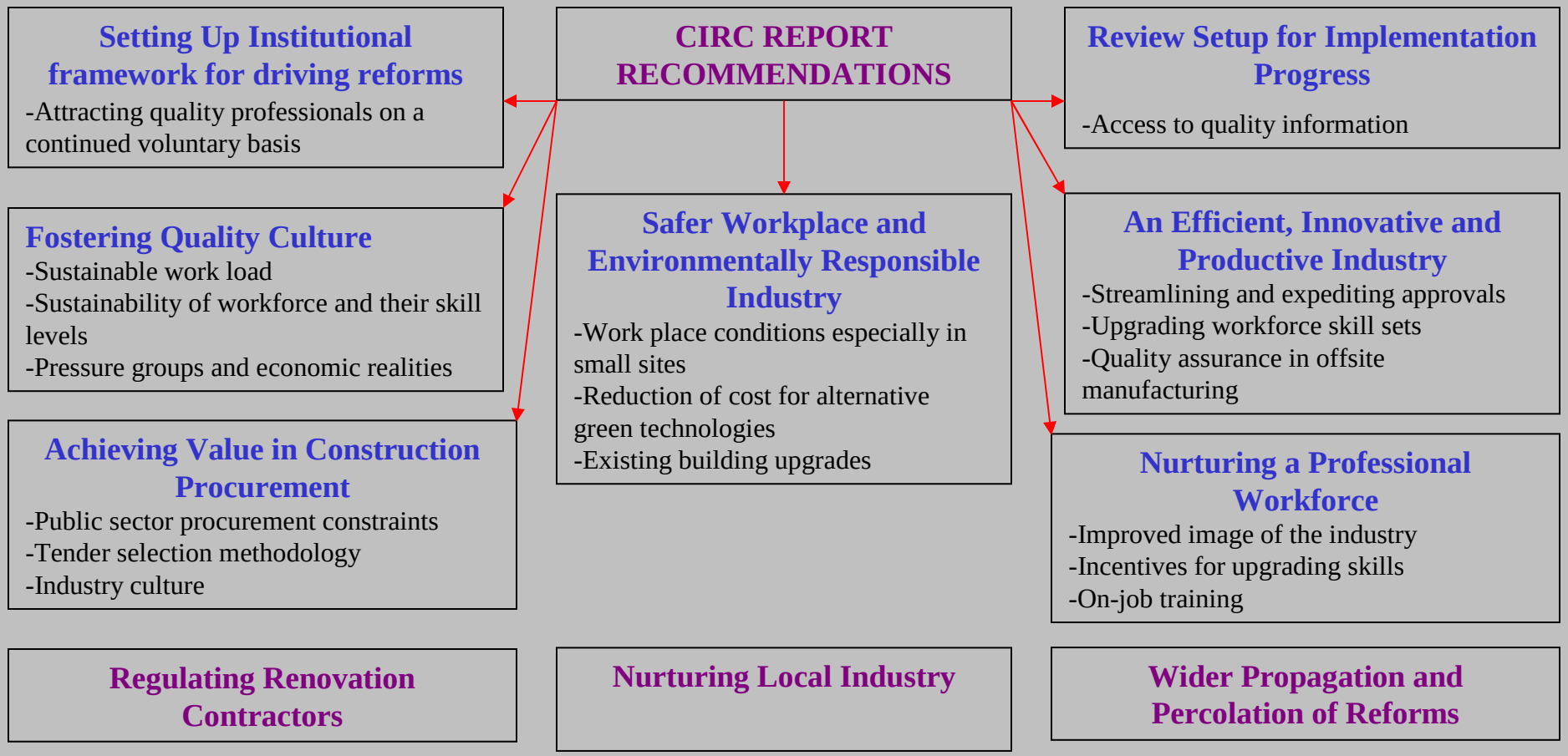
Nurturing a Professional Workforce
-Attracting new talent into workforce
-Training cost absorption
-Ageing work force

Regulating Renovation Contractors

Nurturing Local Industry

Wider Propagation and Percolation of Reforms

Focus 3: Key Challenges to Construction Industry Reforms



Thank You