Prospects, Opportunities & Preparedness for CPEC

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Introduction

Geo-strategic Competition and Silk Roads

Soviet Approach

US Silk Roads Concept

CPEC/ Chinese B & R Initiative

Scope

- CPEC Long Term Plan: Prospects and Opportunities for Socio-economic Development
- Academic Preparedness for CPEC
- Conclusions for Engineers & Engineering Education

CPEC Long Term Plan: Prospects & Opportunities for Socio-economic Development

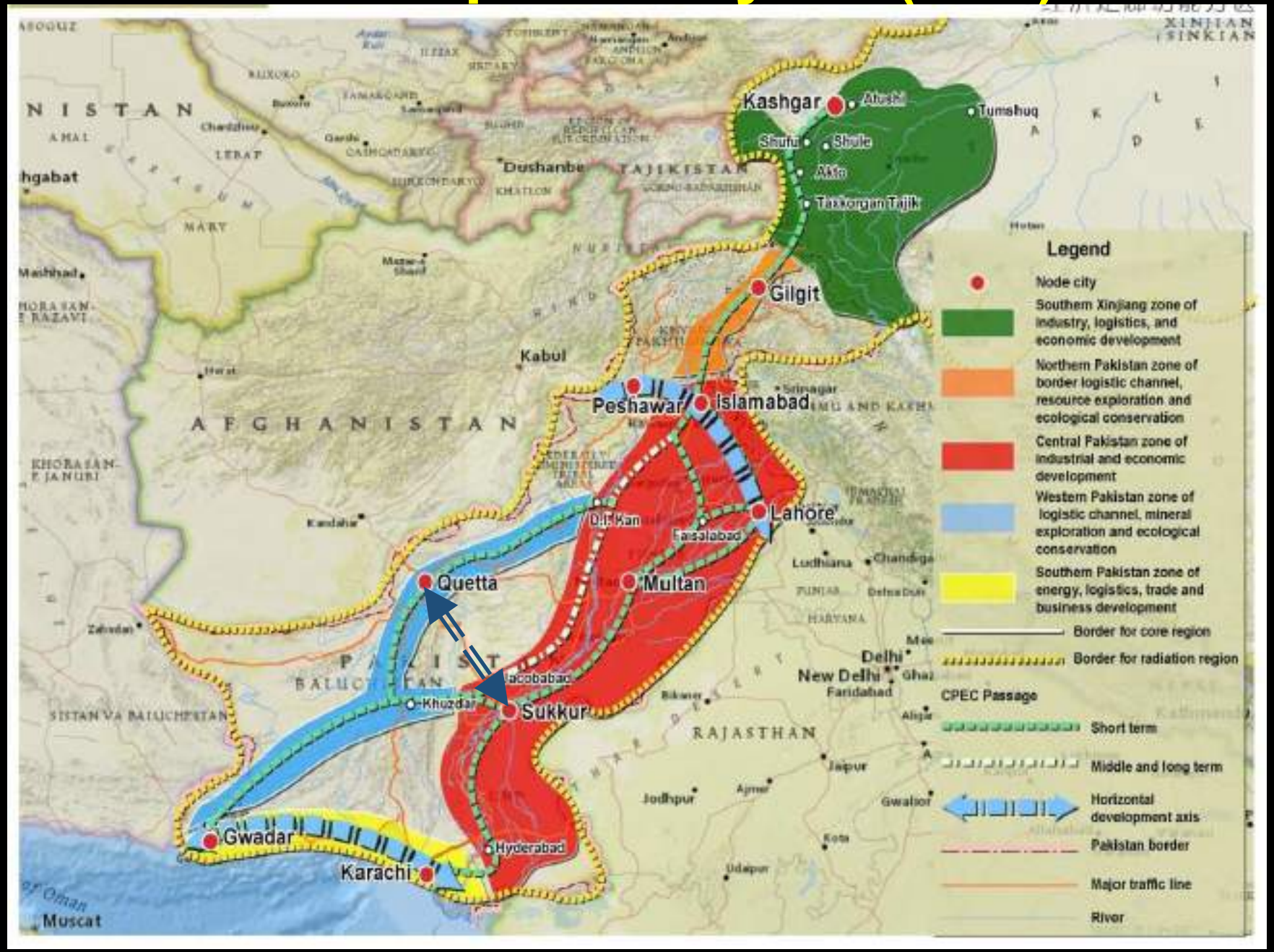
CPEC Long Term Plan

(1) Connectivity, including infrastructure, for integrated transport system and establishment of digital corridor,
(2) Energy-related infrastructure,
(3) Trade & industrial parks,
(4) Agriculture & poverty alleviation,
(5) Tourism and development of ocean economy,
(6) Cooperation in areas concerning people's livelihood & non-governmental exchanges and
(7) Financial cooperation and border management.

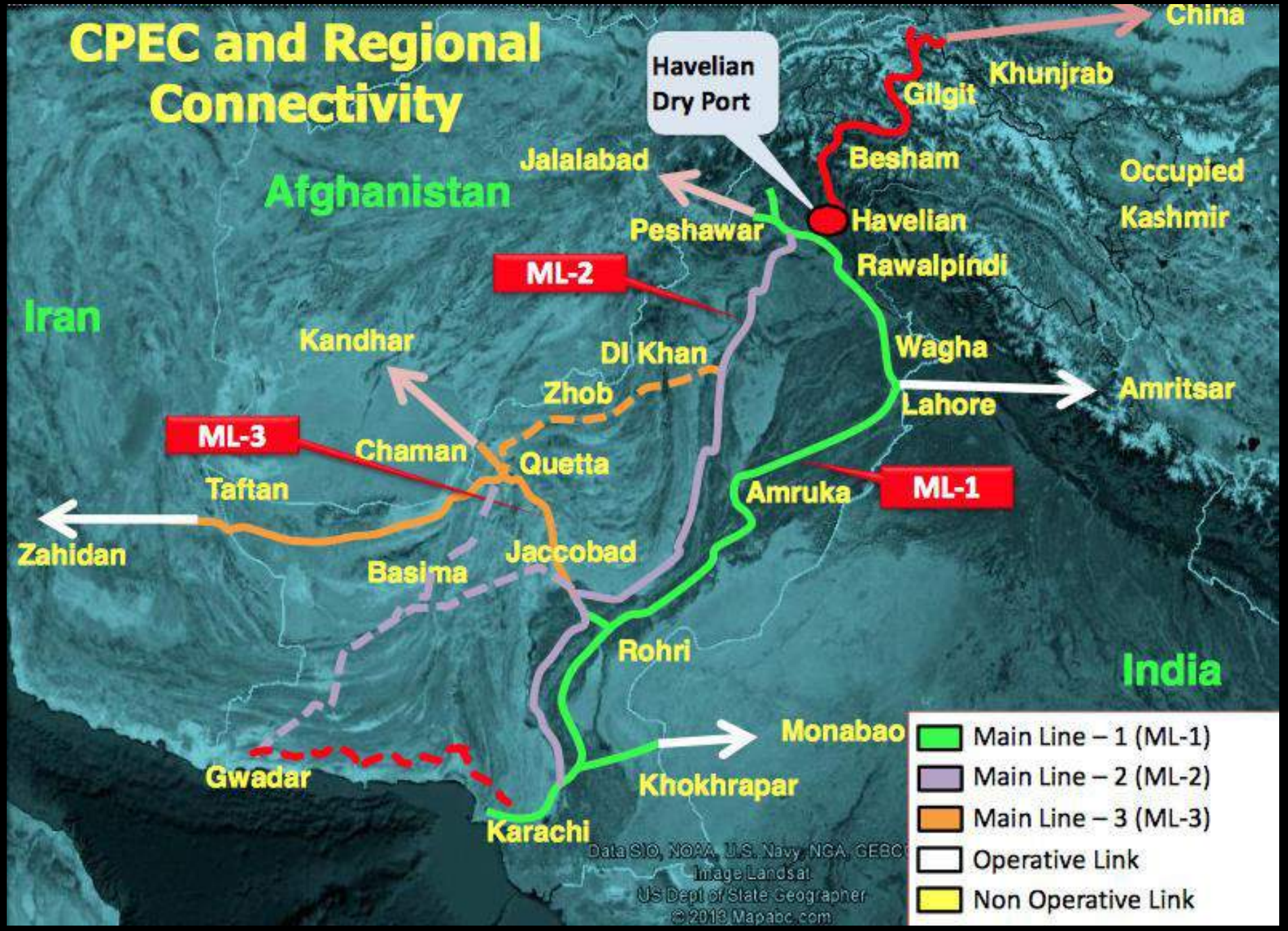
Timelines

- **Short-term** - Corridor will take initial shape - **2020**
- **Mid-term** - It will basically be established - **2025**
- **Long-term** - It will be fully completed - **2030**

CPEC: Spatial Layout (LTP)



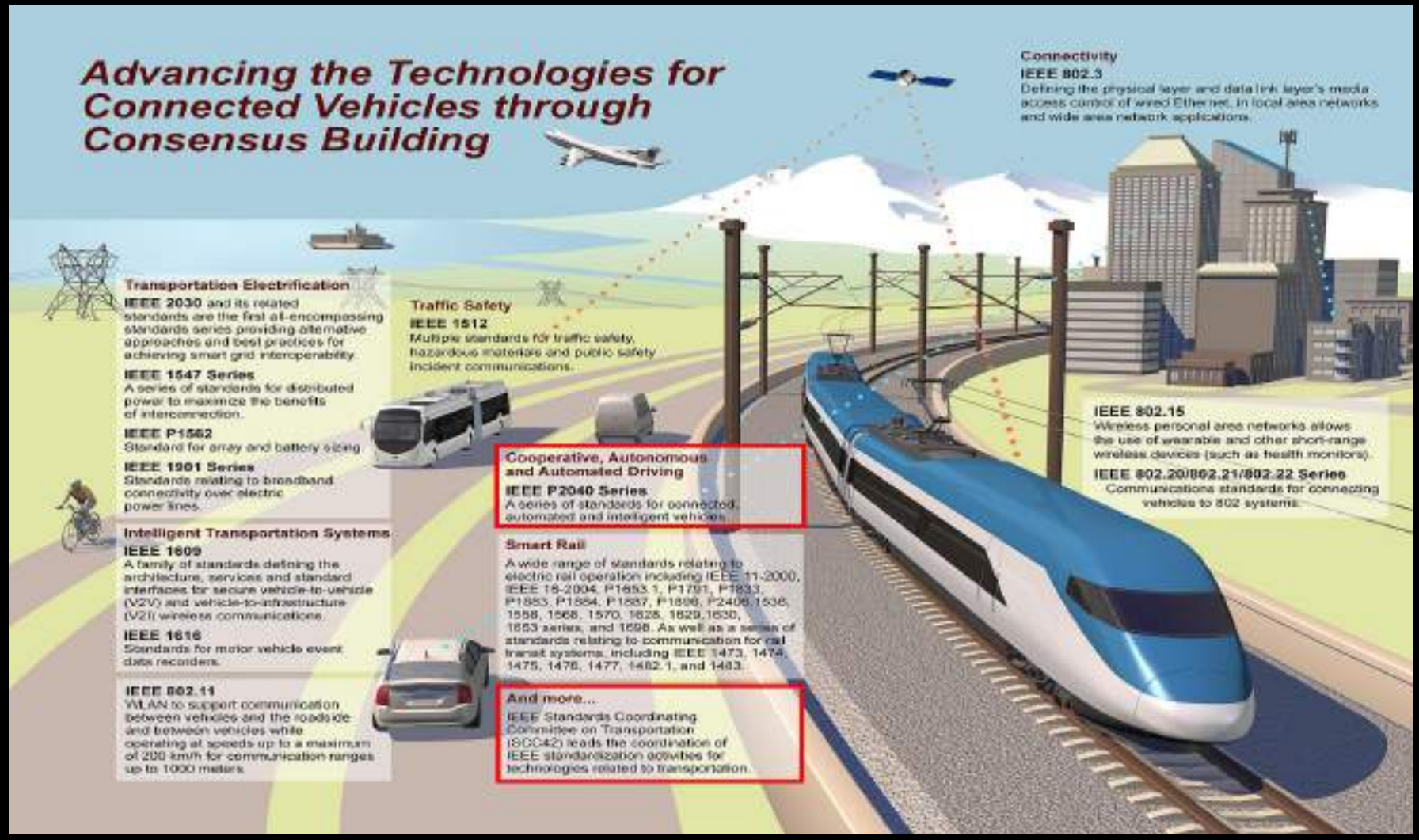
Highways Network of CPEC


CPEC and Regional Connectivity
China
Khunjrab
Gilgit
Havelian Dry Port
Jalalabad
Besham
Occupied Kashmir
Afghanistan
Peshawar
Havelian
Rawalpindi
ML-2
Iran
Kandhar
DI Khan
Wagha
Zhob
Amritsar
Lahore
ML-3
Chaman
Quetta
Taftan
Amruka
ML-1
Zahidan
Jaccobad
Basima
Rohri
India
Monabao
Gwadar
Khokhrapar
Karachi
Main Line – 1 (ML-1)
Main Line – 2 (ML-2)
Main Line – 3 (ML-3)
Operative Link
Non Operative Link

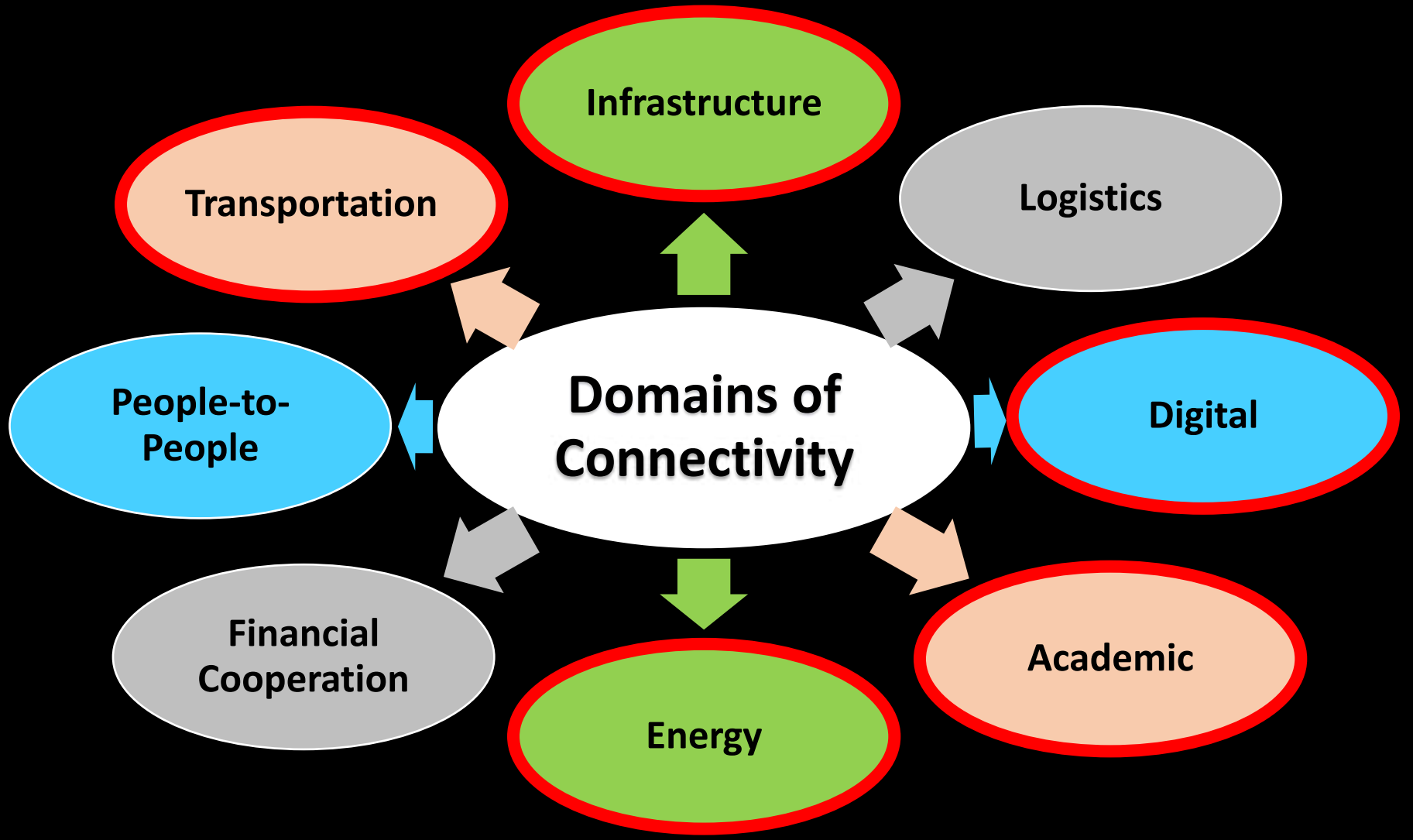
CPEC Long Term Plan: Connectivity

"Connectivity is destiny"

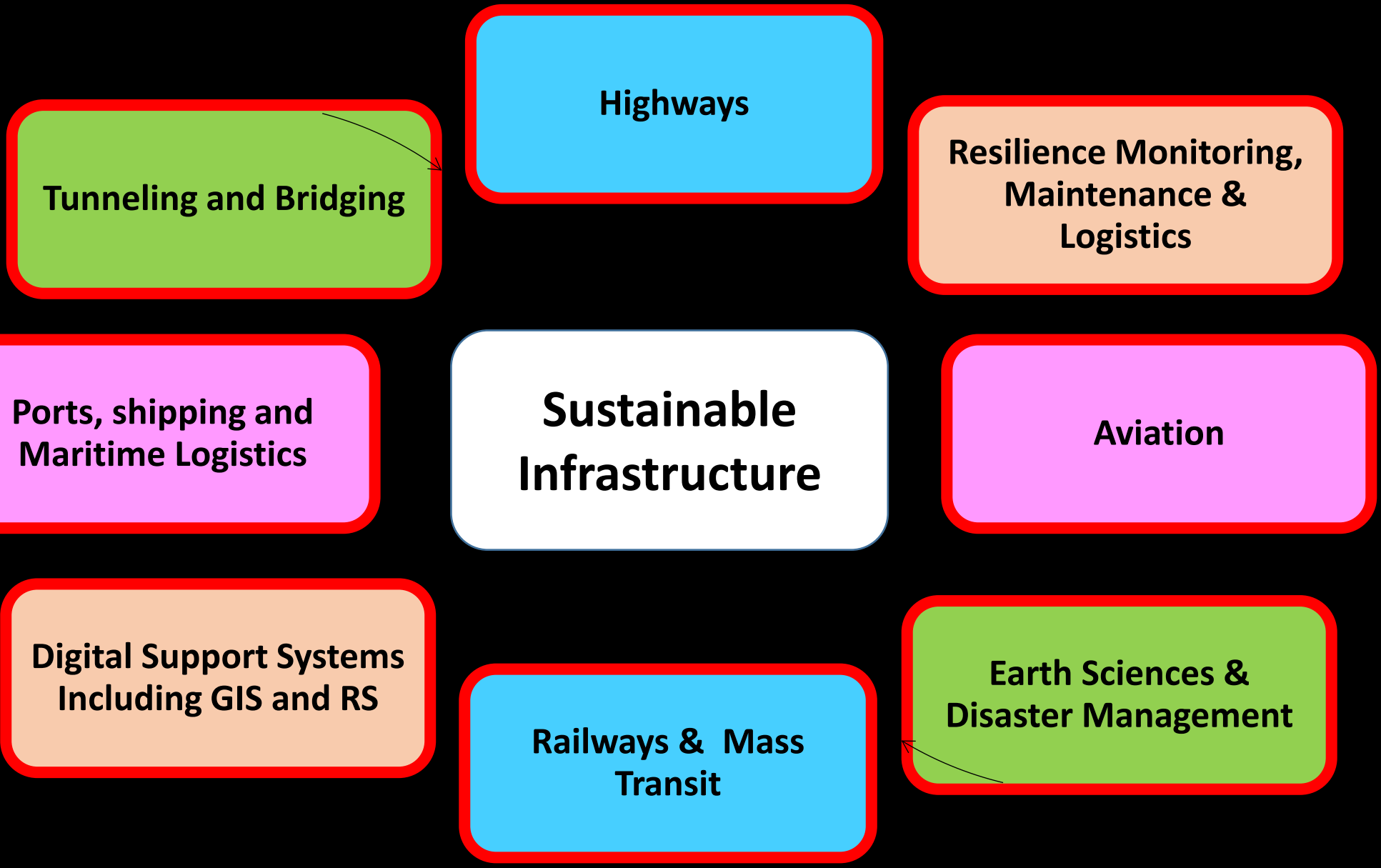
– Parag Khanna



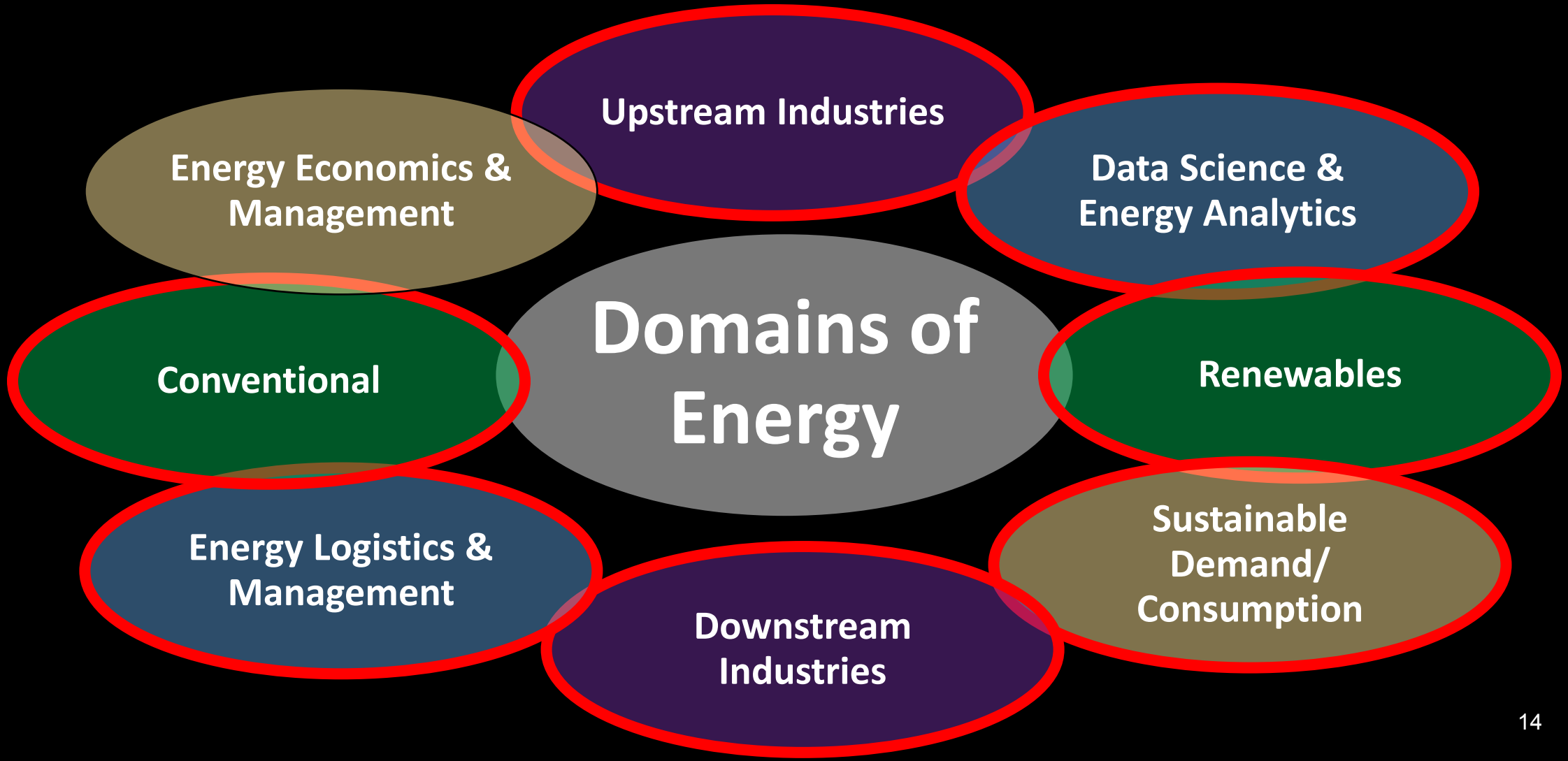
CPEC LTP: Connectivity



CPEC LTP: Sustainable Infrastructure



CPEC LTP: Energy



CPEC Special Economic Zones (SEZs)

1. Rashakai Economic Zone, M-1, Nowshera
2. China SEZ Dhabeji, Karachi
3. Bostan Industrial Zone, Quetta
4. Allama Iqbal Industrial City (M3), Faisalabad
5. ICT Model Industrial Zone, ISB
6. Industrial Park at Port Qasim, Karachi
7. SEZ at Mirpur, AJK
8. Mohmand Marble City, Peshawar
9. Moqpondass SEZ, Gilgit-Baltistan

CPEC SEZs: Industries

1. Gilgit

. Marble / Granite

. Iron Ore Processing

. Fruit Processing

. Steel Industry

. Mineral Processing Unit

. Leather Industry

2. Mohmand

On Completion of Feasibility Study

3. Rashakai

. Fruit

. Food

. Packaging

. Textile

. Stitching

. Knitting

CPEC SEZs: Industries

4. Islamabad

. Steel
. Food Processing
. Pharmaceutical & Chemicals
. Printing and Packaging
. Light Engineering

5. Mirpur

On Completion of Feasibility Study

6. Faisalabad

. Textile
. Steel
. Pharmaceuticals
. Engineering
. Chemicals
. Food Processing
. Plastics
. Agriculture Implements

CPEC SEZs: Industries

7. Bostan, Quetta

. Fruit Processing
. Agriculture Machinery
. Pharmaceutical
. Motor Bikes Assembly
. Chromite
. Cooking Oil
. Ceramic Industries
. Ice and Cold Storage
. Electric Appliances
. Halal Food Industry

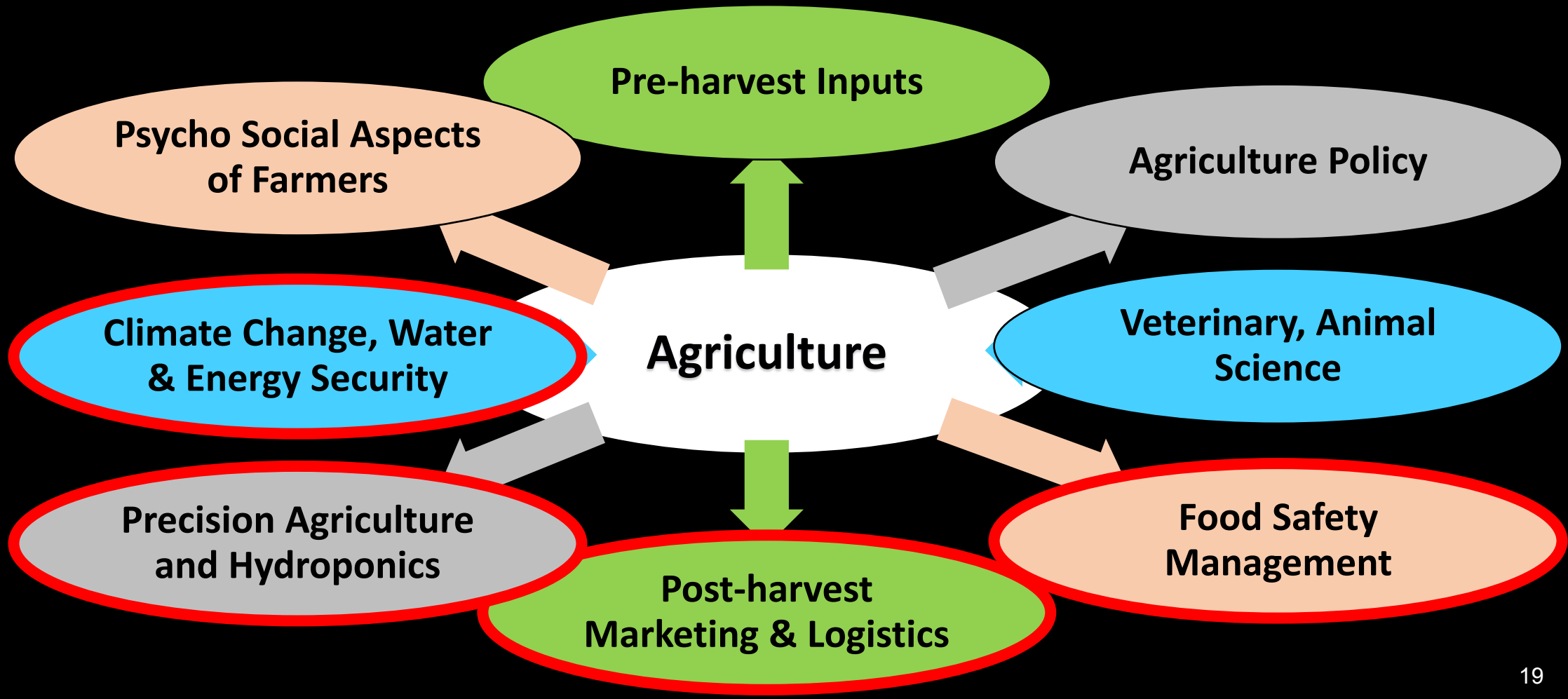
8. Port Qasim, Karachi

. Steel
. Auto & Allied Industries
. Pharma
. Chemical
. Printing and Packaging
. Garments

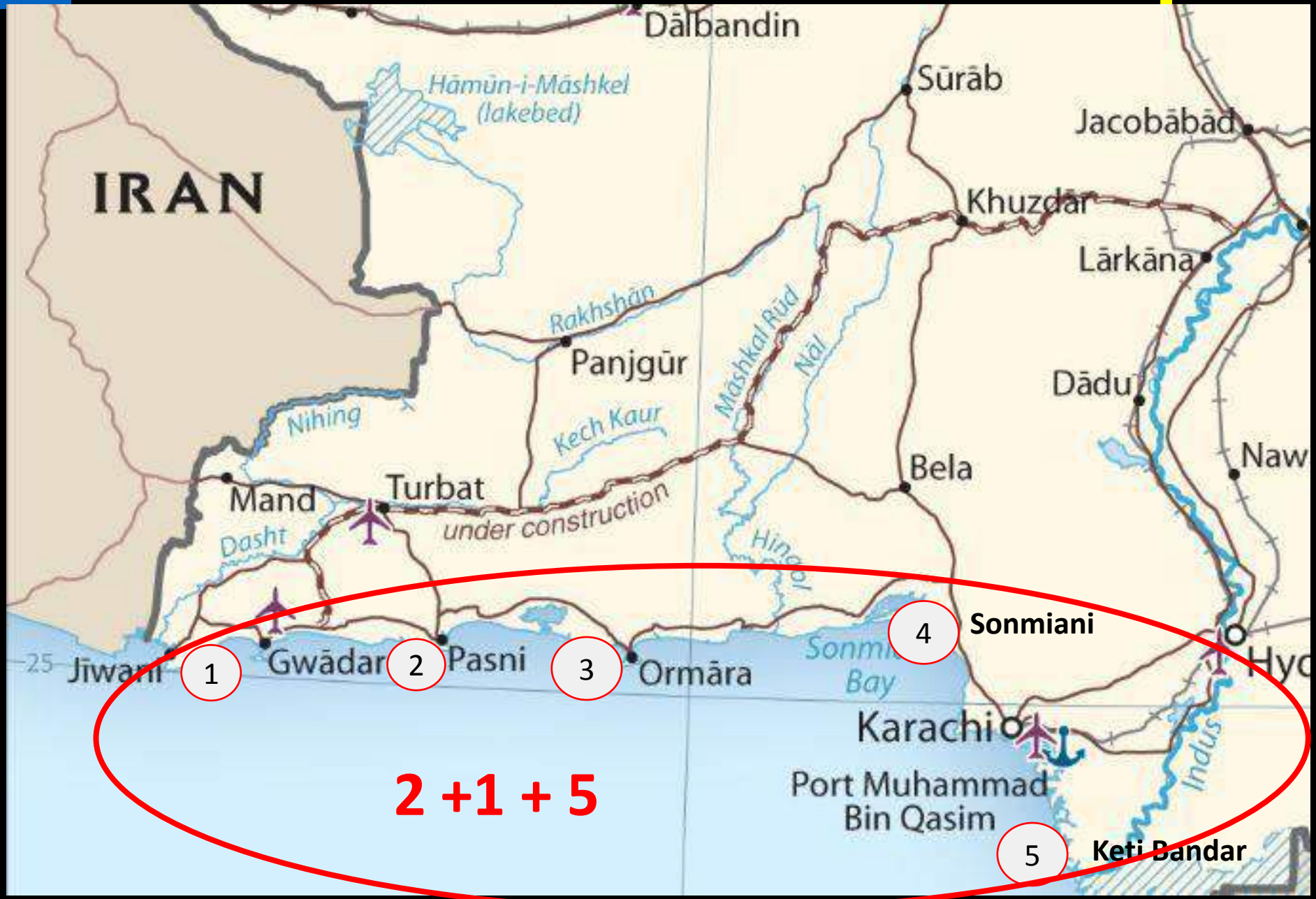
9. Dhabeji, Karachi

. To be determined after feasibility study

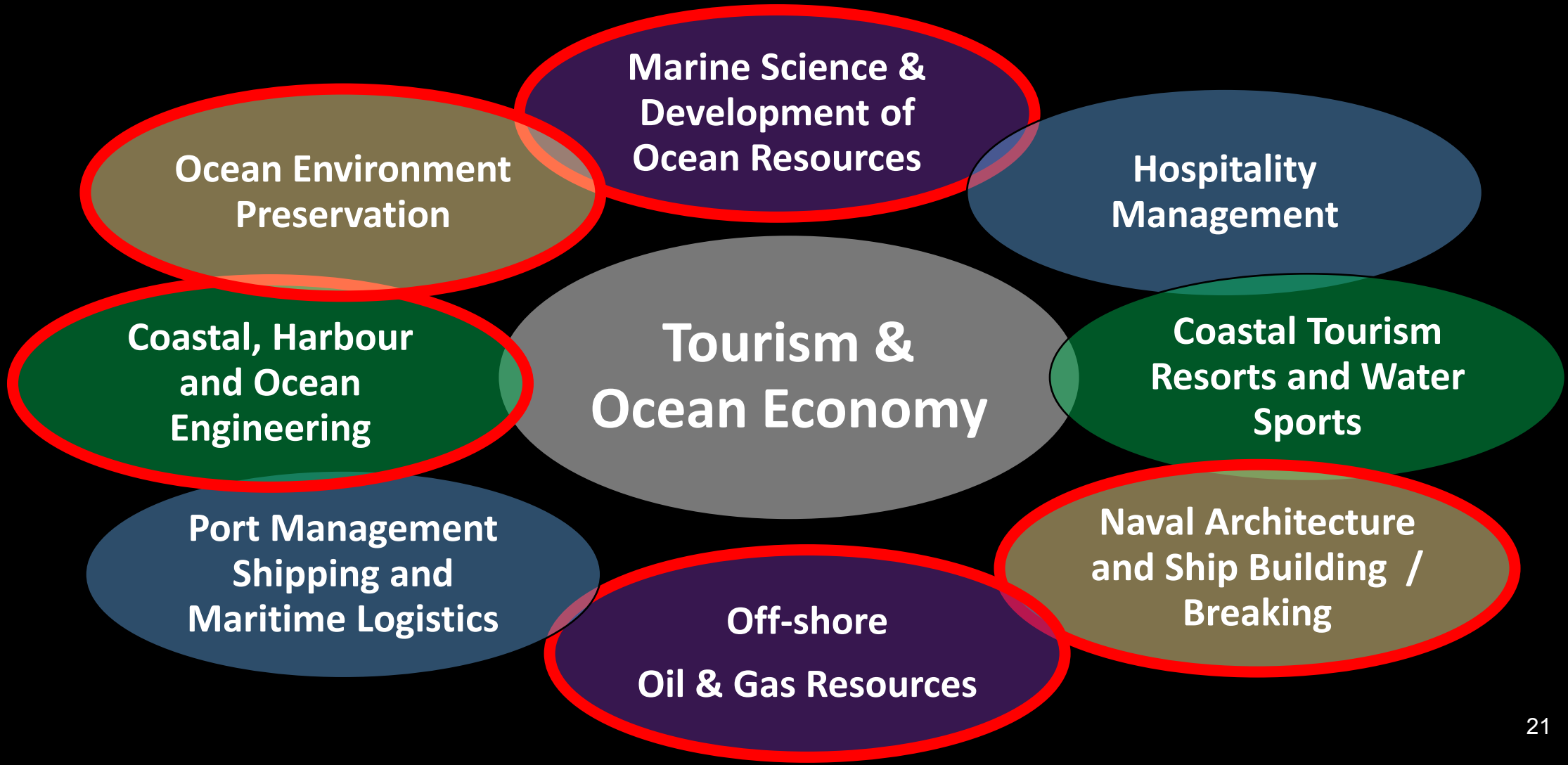
CPEC LTP: Agriculture and Poverty Alleviation



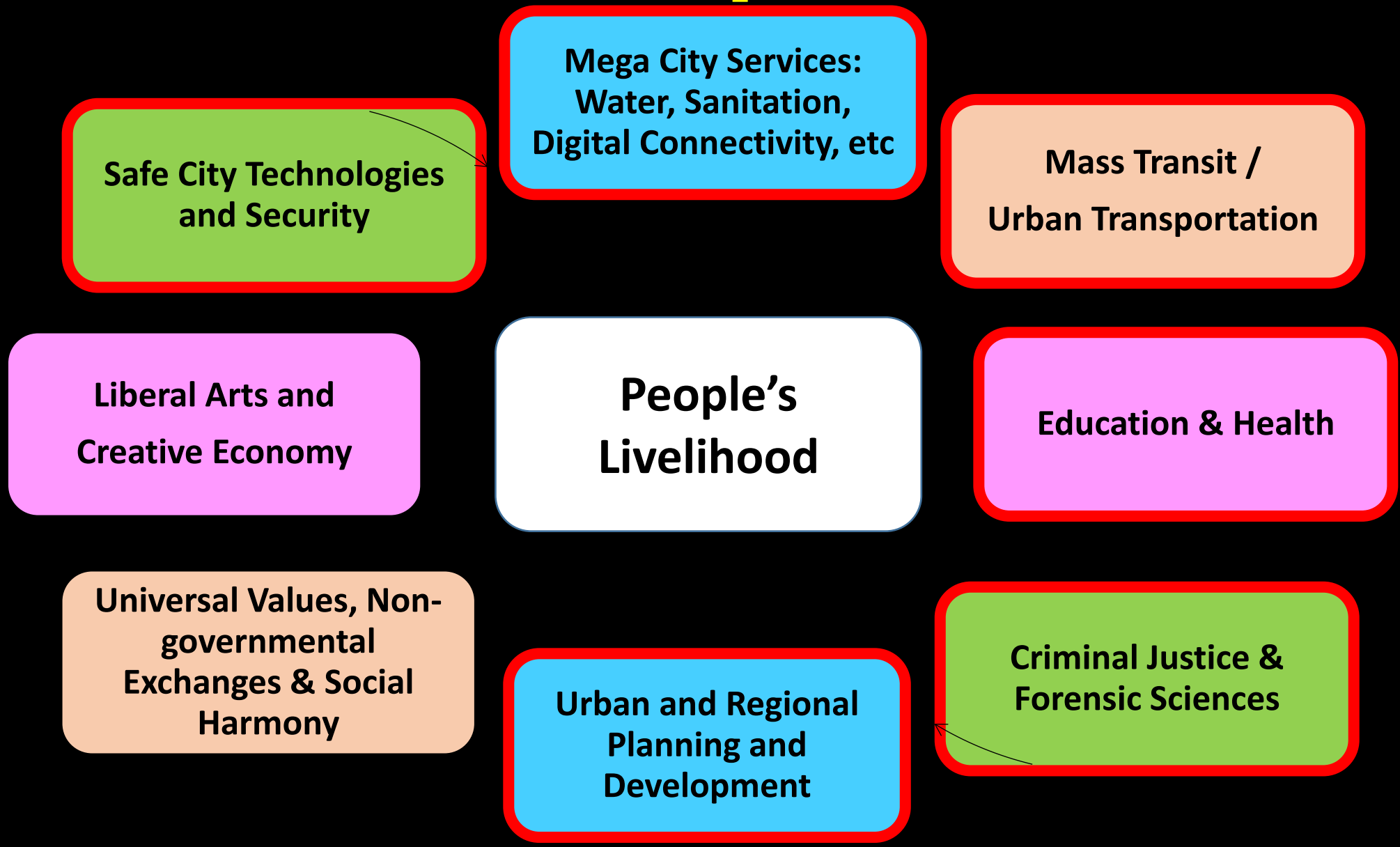
EEZ & Coastal Tourism Development



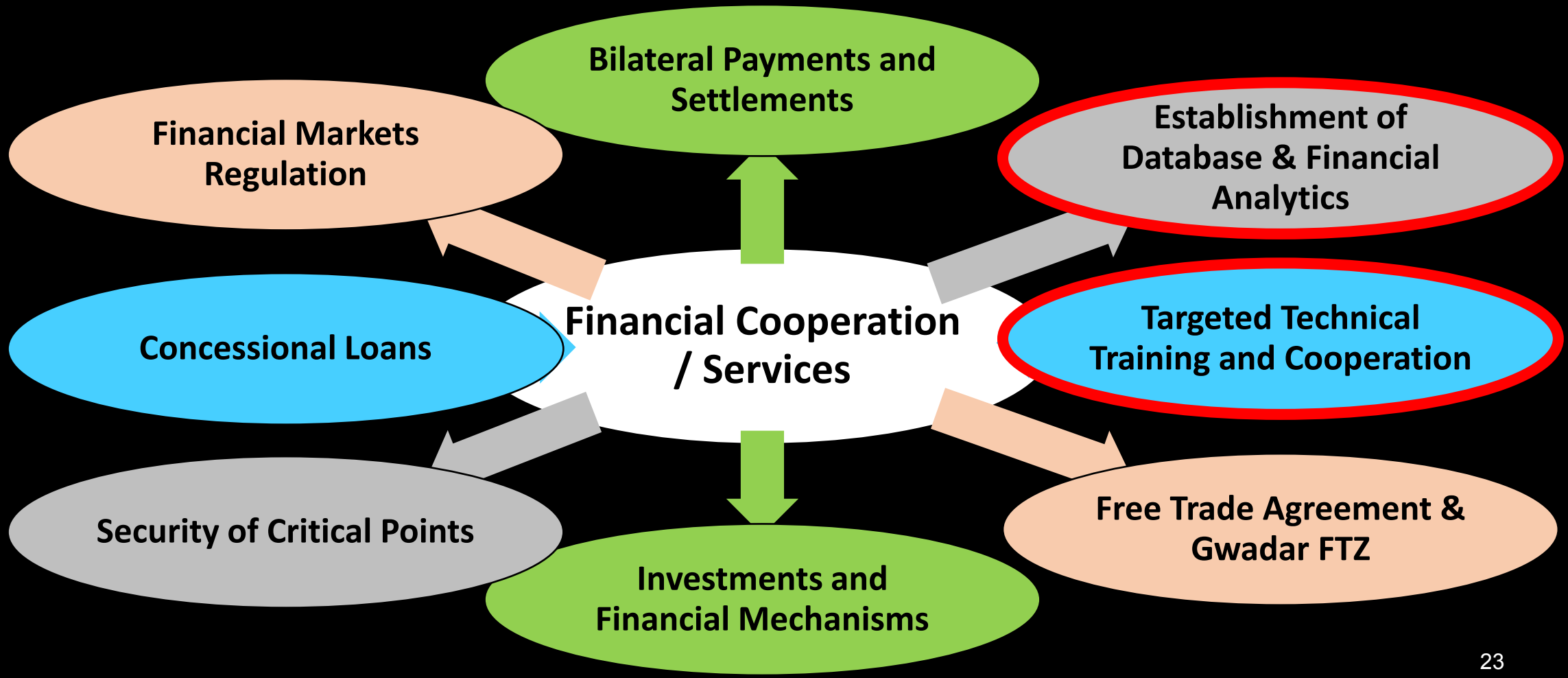
CPEC LTP: Tourism & Ocean Economy



CPEC LTP: People's Livelihood



CPEC LTP: Financial Cooperation



Academic Preparedness for CPEC

HEC Plan/ Preparedness

Implementation Mechanism

1. Linkages with leading Chinese Universities
2. Capacity building of existing universities
3. Establishment of new HEIs to cover knowledge gaps
4. Establishment of Science & Technology Parks
5. Support provinces in vocational / technical training by establishing Skill Universities to develop quality faculty

HEC Plan/ Preparedness

Implementation Mechanism: Alliance with Chinese Universities

1. Establish alliance of 50 universities from each country
2. Learn from Chinese industrial & science parks
3. Develop understanding of Chinese language, culture & civilization
4. Promote joint research covering a broad range of issues
5. Increase faculty & student exchanges
6. Promote interaction between the think tanks
7. Exploit scholarship opportunities in Chinese universities

CPEC Consortium of Business Schools/ Universities

Chinese Universities

CPEC Consortium of Business Schools/ Universities

Pakistani Universities

Capacity Building
of
Existing Universities

HEC Plan/ Preparedness

Implementation Mechanism

Capacity Building of Existing Universities

- Establish Integrated Research Centers (IRCs) and Area Study Centers (ASCs) in selected universities to cover knowledge gaps in areas of academic focus and promote civilizational harmony
- Reorientation of faculty development program
- CPEC focused research
- National Institutes of Applied Technologies (NIATs)

HEC Plan/ Preparedness:
Integrated Research Centers

Province	Engineering and Technology	Agriculture & Sciences	Business & Management Studies	Social Sciences & Humanities	Total
Punjab	5	3	-	1	9
Sindh	2	2	2	1	7
KP	1	2	1	1	5
Balochistan	1	1	-	1	3
GB	-	-	1	-	1
AJK	1	-	-	1	2
Federal	4	1	2	1	8
Total	14	9	6	6	35

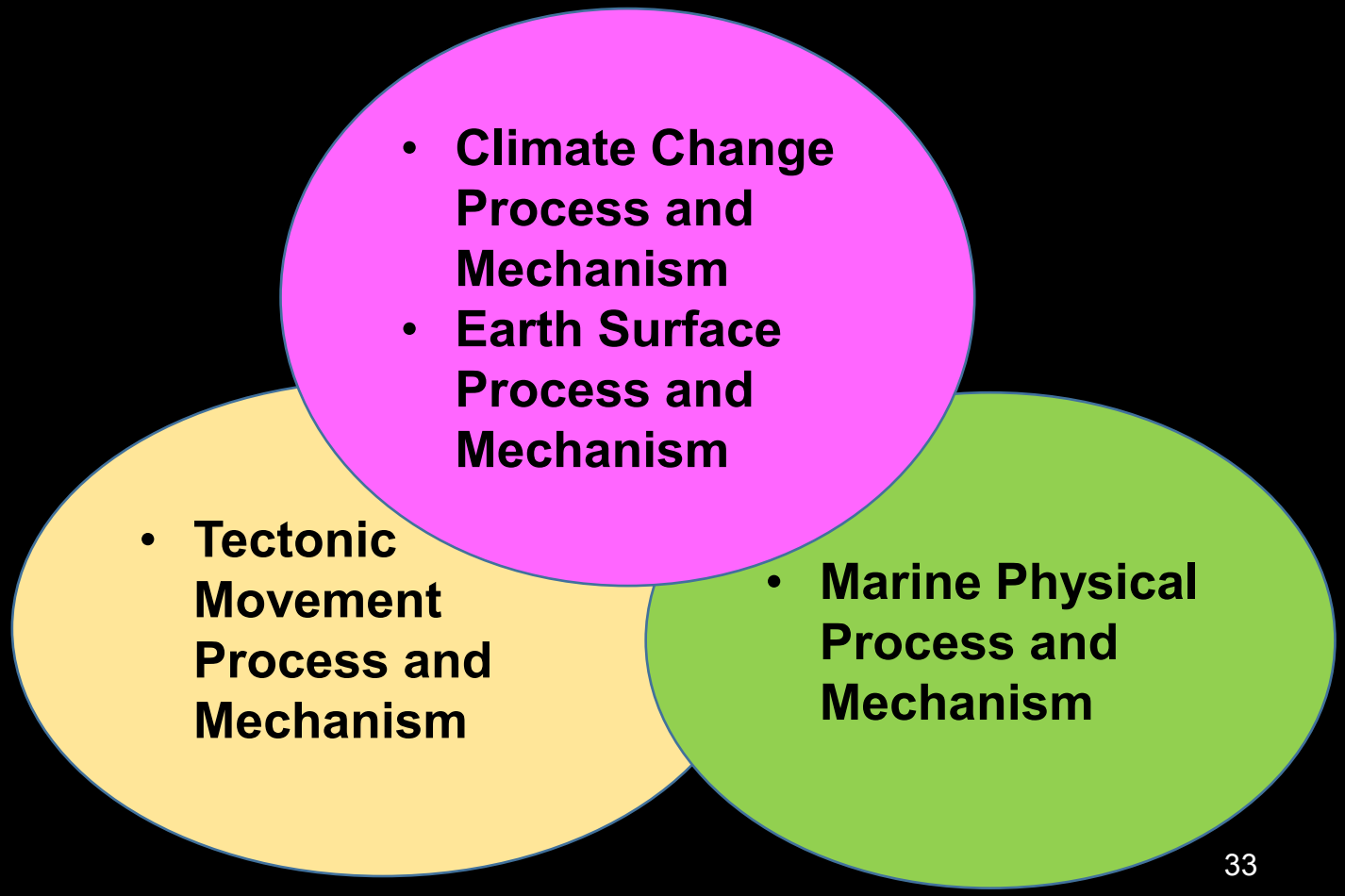
HEC Plan/ Preparedness:
Faculty Development Program

- Faculty Development Program (PhDs) - 2000
- Post-Doc Training - 1000
- PhD Education Abroad - 2000
- US Knowledge Corridor (Phase-1) - 1500

HEC Plan/ Preparedness: China-Pakistan Joint Research Center on Earth Sciences

Areas of Research Focus

- Atmosphere
- Hydrosphere
- Lithosphere
- Cryosphere
- Biosphere

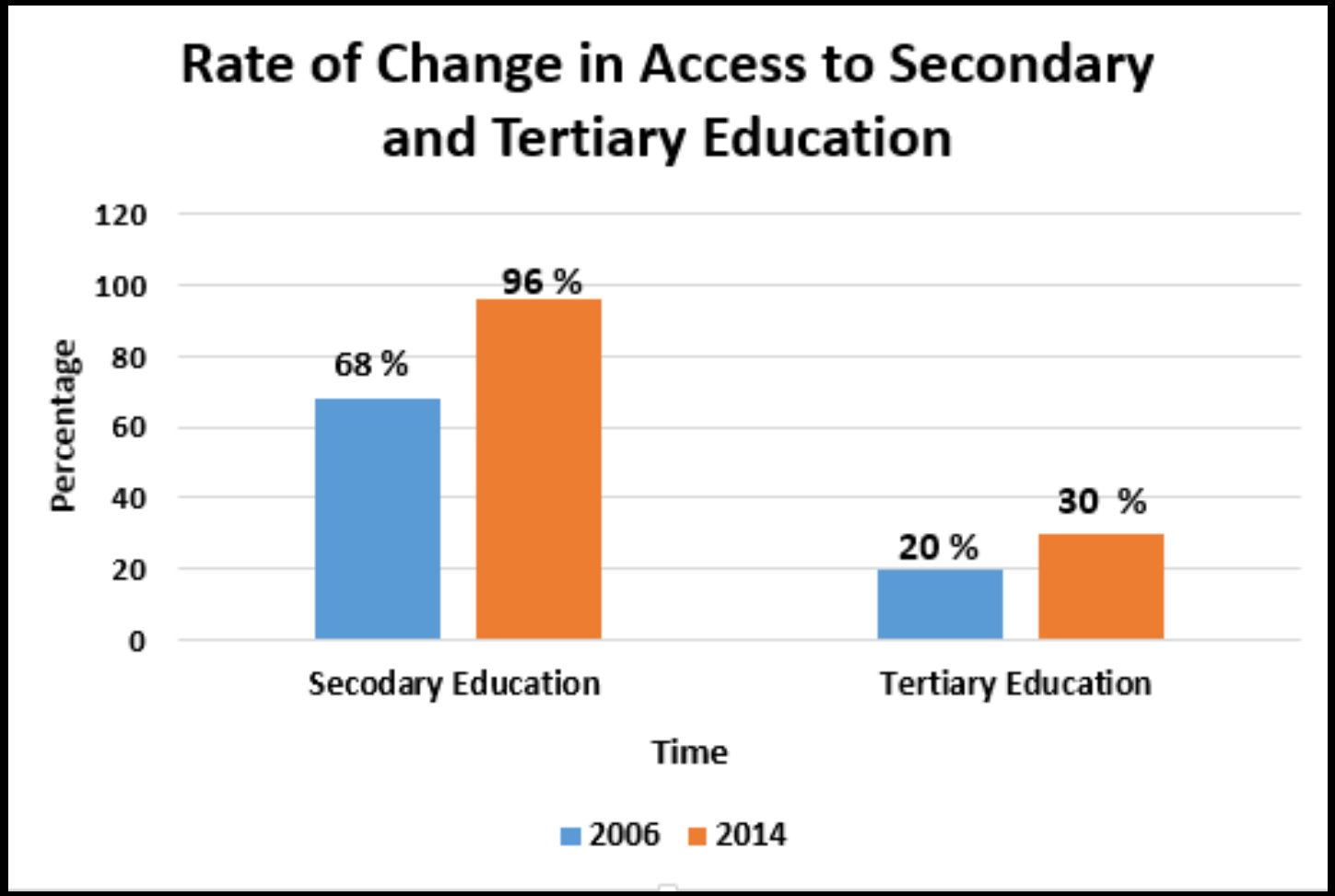


Conclusions for Engineers & Engineering Education

Rate of Urbanization in China

- Plans to move 250 million people to urban centers in 10 Years

Rate of Change in China: Education



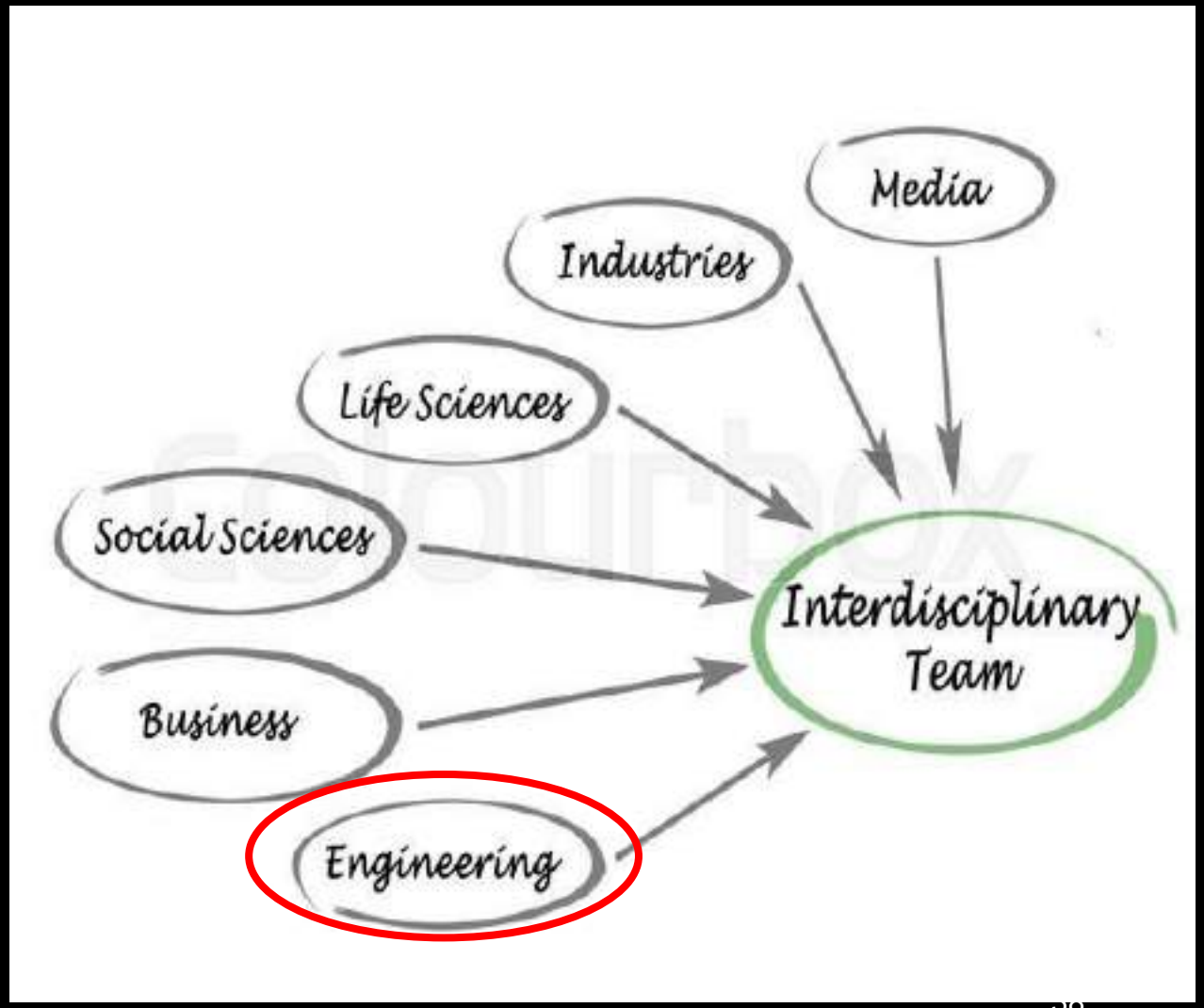
Project Planning and Management: The Chinese Way

- Project execution and management by Chinese is superb.

- We need to learn from their handling of operational, legal and logistic issues.

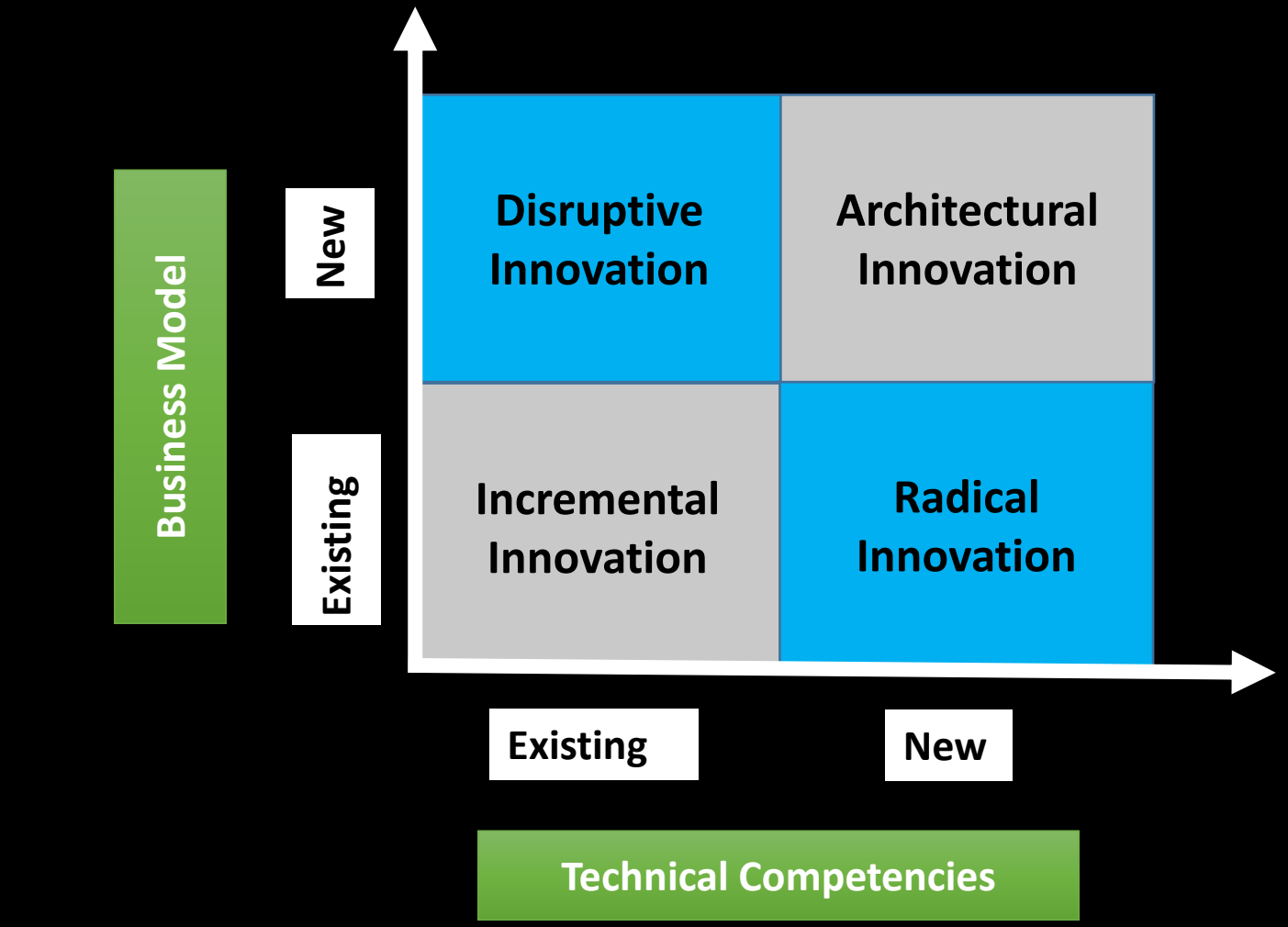
Inter-disciplinary Engineering Education

- Must add at least two eminent persons/ scholars/ scientists to PEC Governing Body from each knowledge domain.
- Engineering curriculum must have interdisciplinary character in line with international best practices



Innovation & Interdisciplinary Education

Innovation Matrix



Value talent, lest they flay away

Thank You