

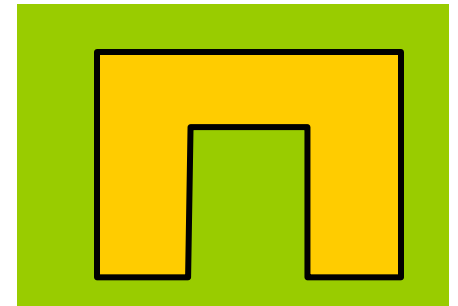
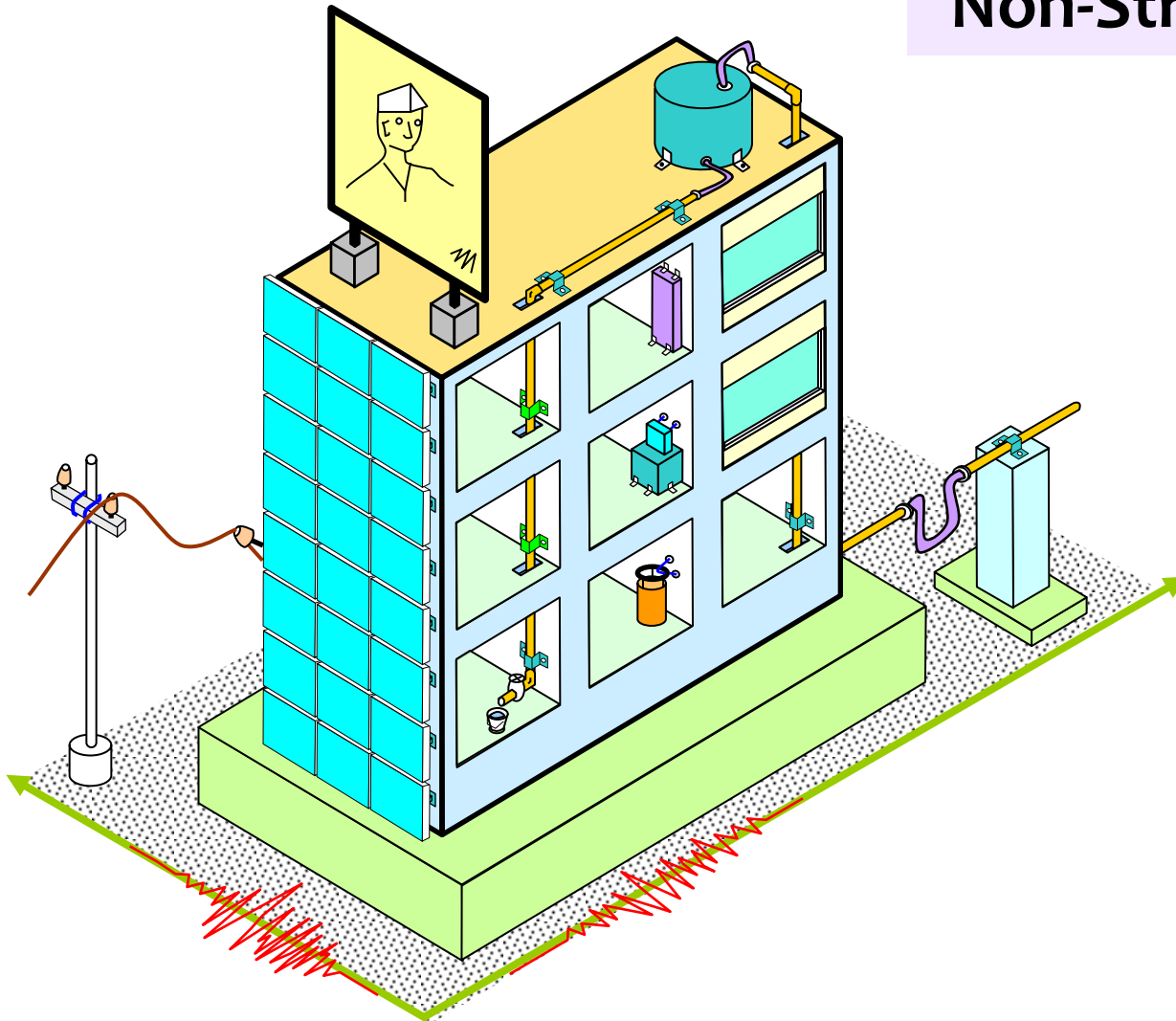


Regulating the Built Environment

The 5 Actions...

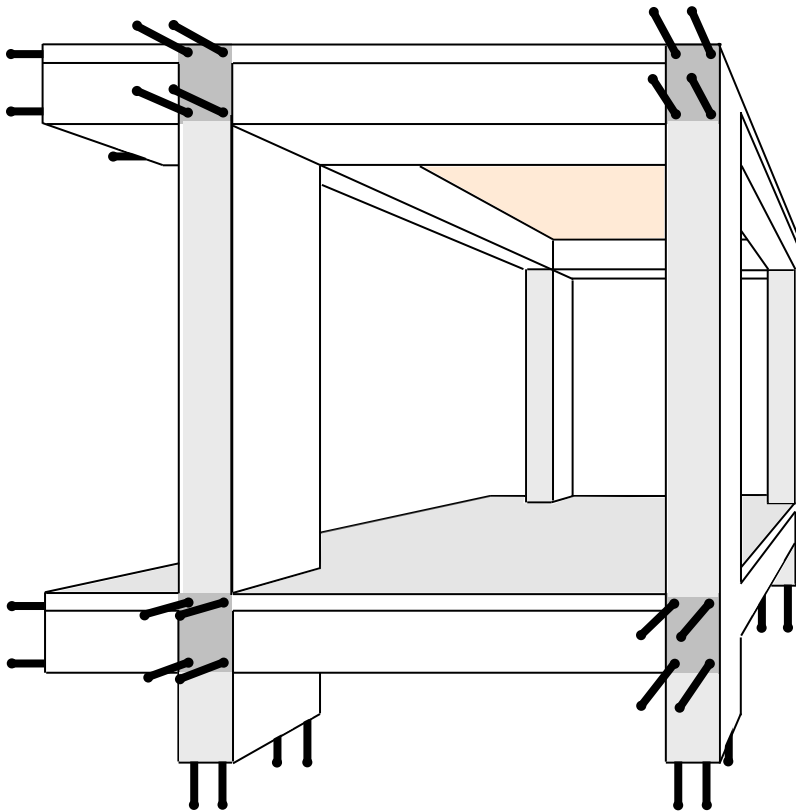
A Case in Point

Non-Structural Elements



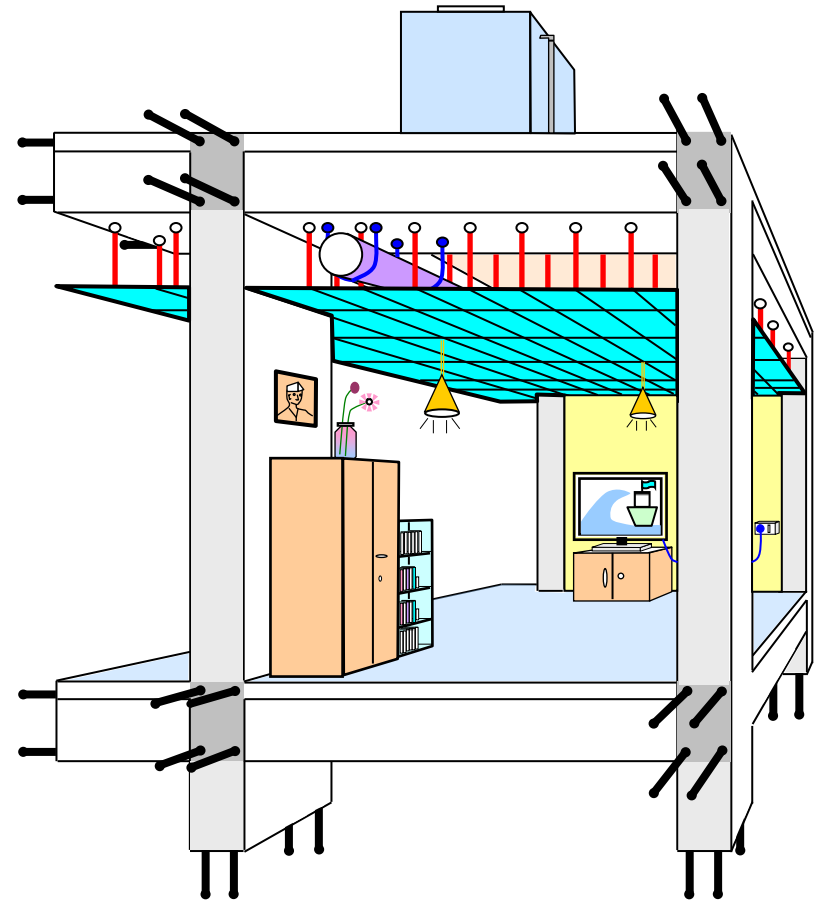
A Case in Point

Non-Structural Elements



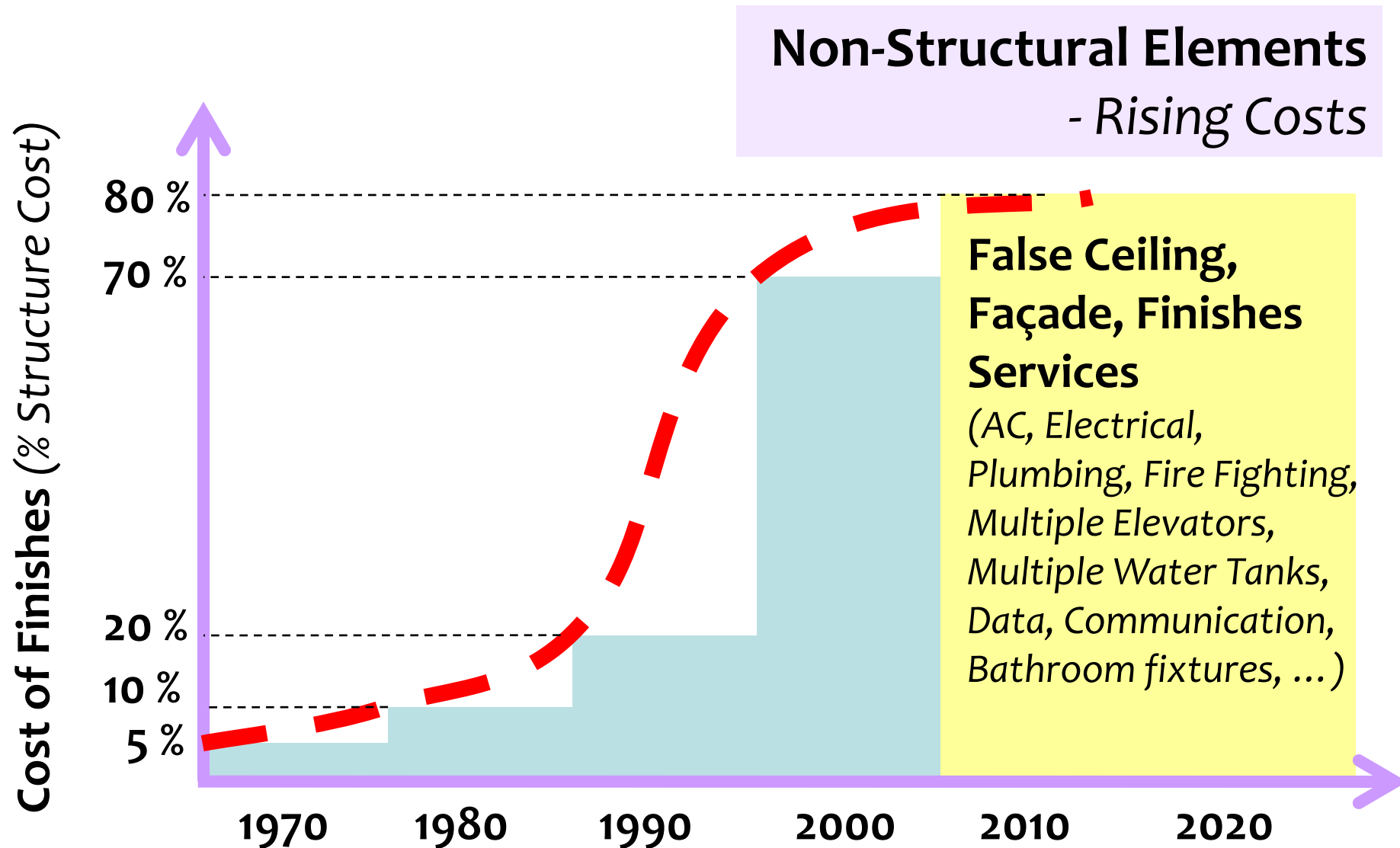
Structural Elements

+



Non-Structural Elements

A Case in Point



A Case in Point

No Safety 20

TLR +4

Safety 24

Structural Safety

5 Aspects

Design .1

Materials .2

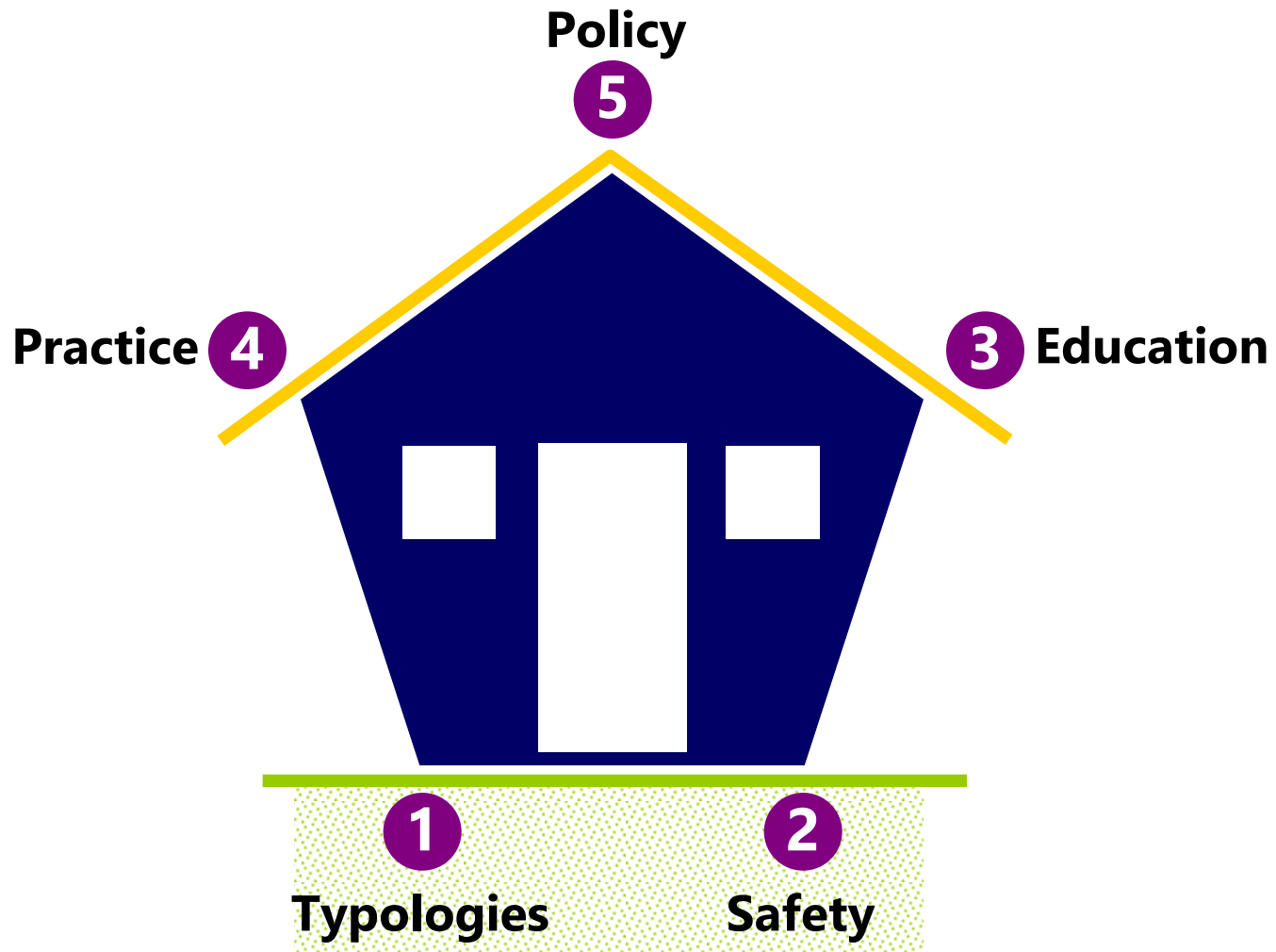
Construction .3

Maintenance and Modification .4

Finishes .5

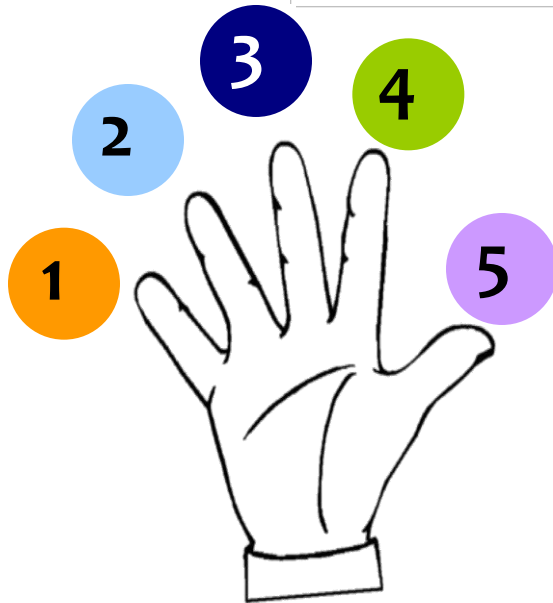
20 : 80 : 1,000

5 Actions



5 Actions

	Typology	Education	Safety	Practice	Policy
Typology	Document Typologies	Manuals of Practice	Outlaw U. Typologies	Develop Skills	Change Bye Laws
Education		Technical Education	New Technology	Continuing Education	Licensing Engineers
Safety			Full Scale Testing	Undertake Retrofit	Peer Review
Practice				Develop Standards	Risk Indexing
Policy					Structural Safety Act



Knowledge

Skills

Attitude

The Critical Equation...

Competence

= Knowledge

+ **Skills**

+ Attitude



The Way Forward...

The Truth...

- **Earthquake safety**
 - *Not taught in Colleges*
 - *Not practiced in Projects*
 - *Not mandated by Law*



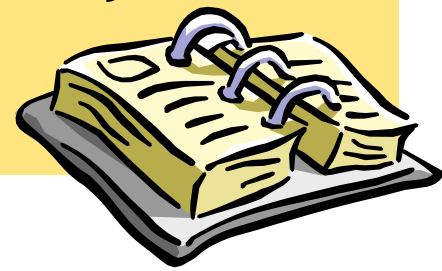
Safety of People

- **Constitution of India**

- *Article 21. Protection of Life and Personal Liberty*

- **No person shall be deprived of his life or personal liberty except according to procedure established by law.**

- *... this fundamental right has been provided against **State** only. ... But, where an act of private individual supported by the State infringes the personal liberty or life of another person, the act will certainly come under the ambit of Article 21.*

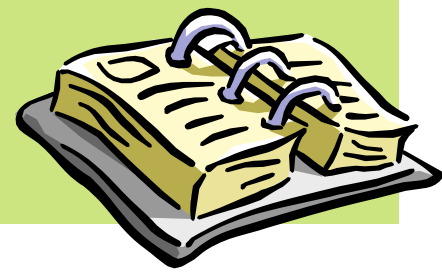


Safety of People

- **Constitution of India**

- *Article 21. Protection of Life and Personal Liberty*

- *The State, includes Government Departments, Legislature, Administration, and **Local Authorities** exercising statutory powers, ... not non-statutory or private bodies having no statutory powers, (e.g., company and autonomous body). The fundamental right guaranteed under Article 21 relates **only to the acts of State** or acts under the authority of the State, which are **not** according to procedure established by law.*



Safety of People

- **Constitution of India**

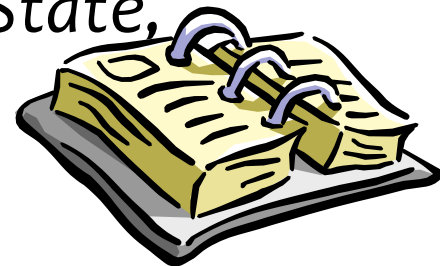
- *Article 21. Protection of Life and Personal Liberty*

- *The procedure cannot be **arbitrary, unfair or unreasonable** one.*

- *No one shall be deprived of his life, except by procedure established by law.*

- *This procedure must be just, fair and reasonable, and not arbitrary, whimsical or fanciful.*

- *Article 21 imposes a restriction upon the State, where it prescribed a procedure, for depriving a person of his life.*

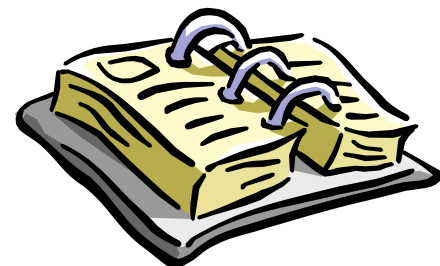


Safety of People

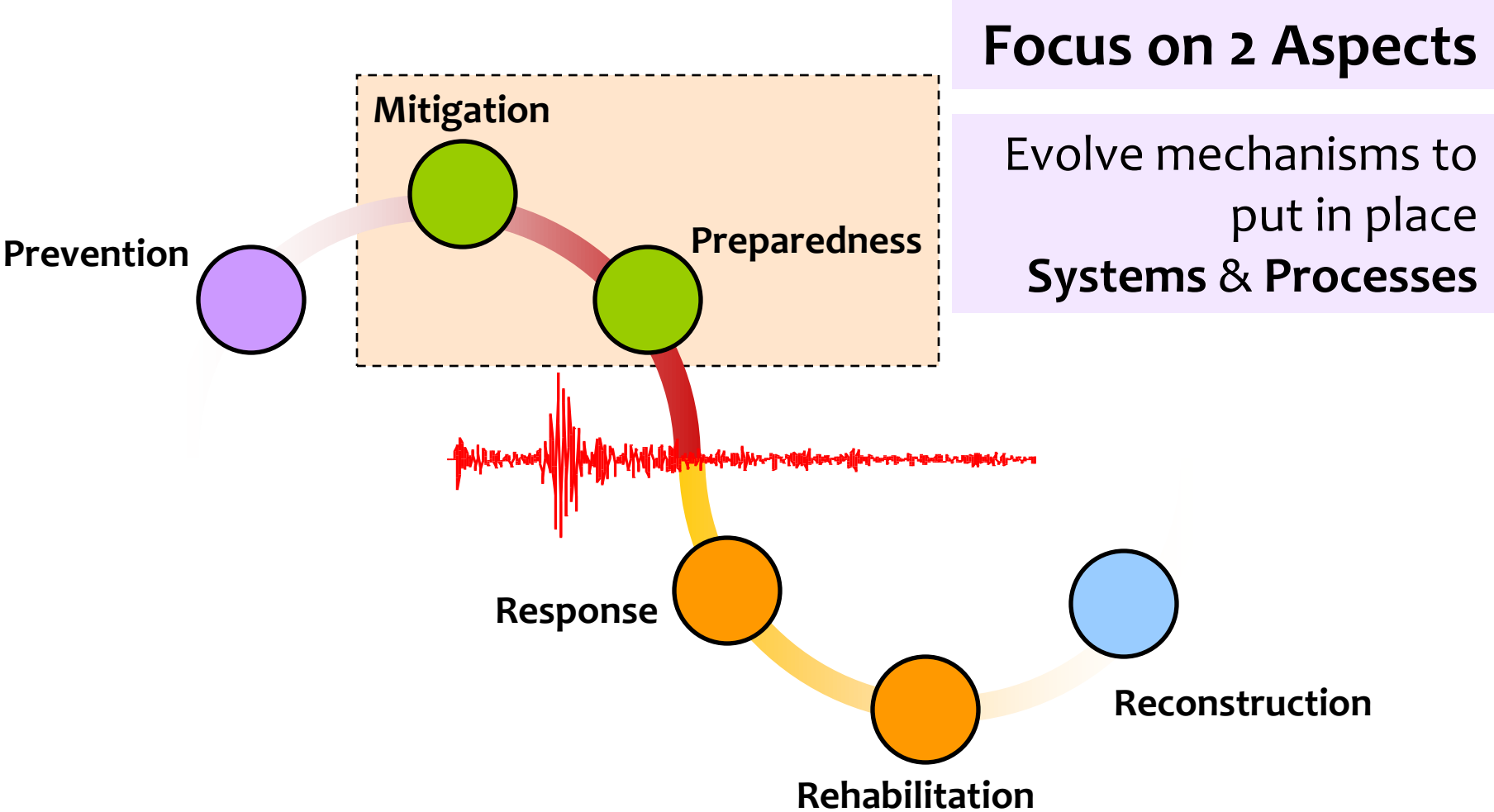
- **Constitution of India**

- *Article 21. Protection of Life and Personal Liberty*

- *Just as a malafide act has no existence in the eye of law, **even lack of procedure** is unreasonable & vitiates law alike. A procedure, which is unjust or unfair, attracts the vice of unreasonableness.*



The Mission



The Mission

Structural Safety Program

Governments + Stakeholders

2016 onwards



1947

DM Act

2005

NDMG - EM

2007

!!

2016

*People and Communities
Central and State Governments
Technical and Voluntary Organizations*



Grateful

- **Sri Kamal Kishore**

Member, NDMA

New Delhi

Professor Ila Patnaik

NIPFP, New Delhi





Jai Hind !!