

ORIENTAL CONSULTANTS GLOBAL

Global Consulting for Sustainable Development



**Asian Conference on Disaster Reduction
Session 5
Recovery from Mega-disasters**

**Recovery from 2015 Nepal Earthquake
- Focus on Housing Reconstruction -**

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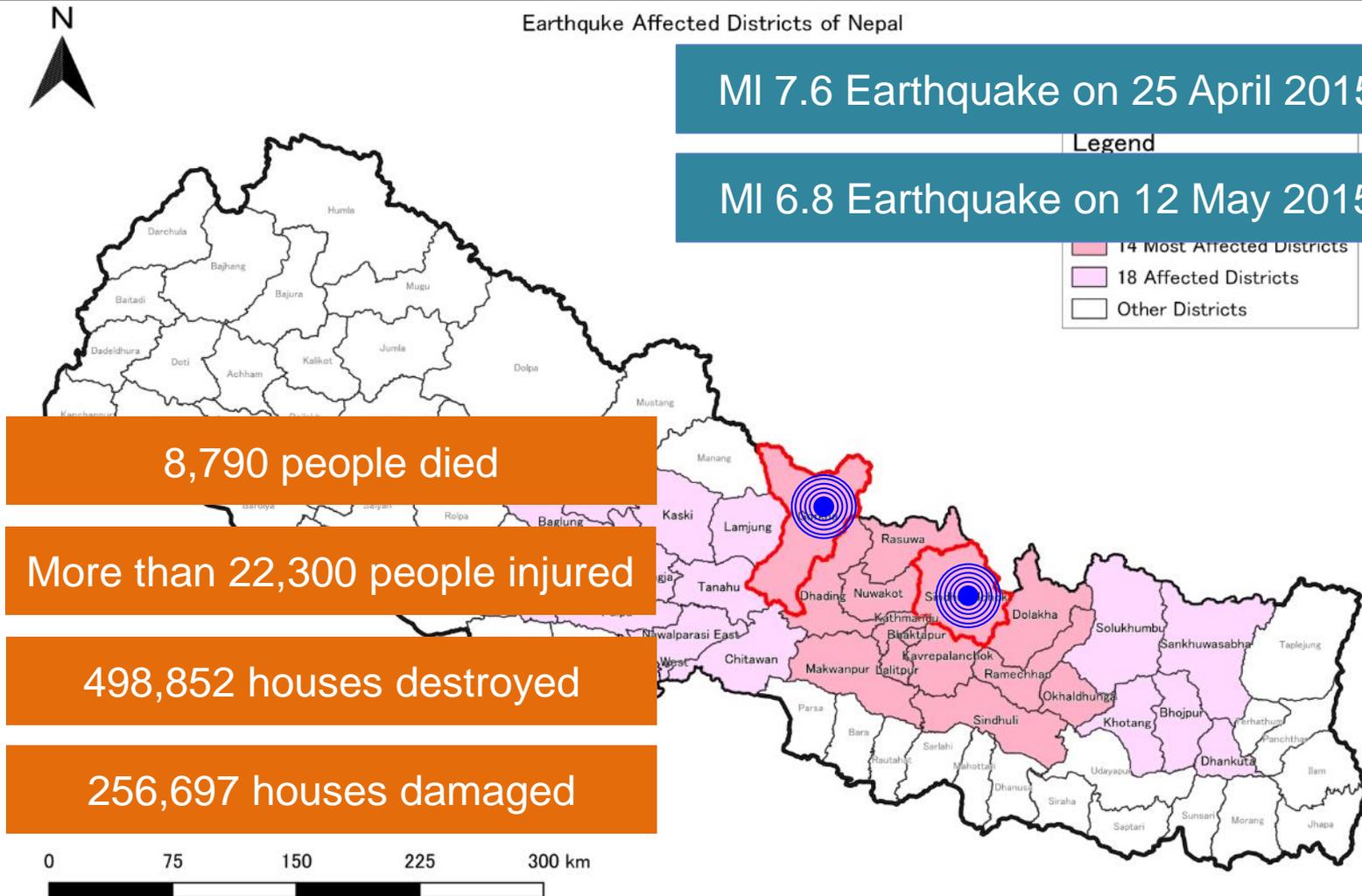
1. Background



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1. Background

Nepal Earthquake



2. Comparison of Recent Disasters and Housing Reconstruction Approaches

2. Comparison of Recent Disasters and Housing Reconstruction Approach

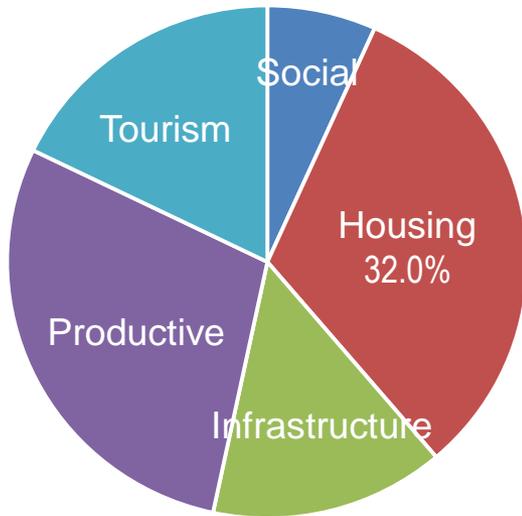
Comparison of Three Disasters

Disaster	Indian Ocean Earthquake and Tsunami	Great East Japan Earthquake	Nepal Earthquake
Country	Indonesia	Japan	Nepal
Disaster Type	Tsunami, Earthquake	Tsunami, Earthquake	Earthquake
Date	26 December 20014	11 March 2011	25 April 2015
Magnitude	M 9.0	M 9.0	M 7.6
Disaster Effects (USD Million) (per GDP)	4,673 (1.82%)	192,700 (3.38%)	7,242 (36.21%)
Housing Sector	32.0%	34.8%	49.6%
Infrastructure Sector	14.6%	23.8%	9.5%
Productive Sector	28.8%	35.1%	25.2%
Death Toll	122,361	18,880	8,702
Injured	NA	6,107	22,303
Destroyed Houses	127,325	129,914	498,852
Partially Damaged Houses	151,653	969,967	256,697
Disaster Effect Estimation Method	ECLAC (Economic Commission for Latin America and the Caribbean)	Original Method	PDNA (Post Disaster Needs Assessment)
Recovery Needs Assessment Method	Original Method	Original Method	PDNA (Post Disaster Needs Assessment)

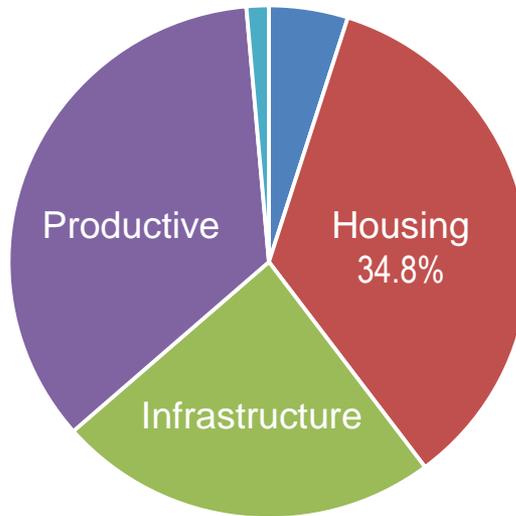
2. Comparison of Recent Disasters and Housing Reconstruction Approach

Comparison of Three Disasters Effects

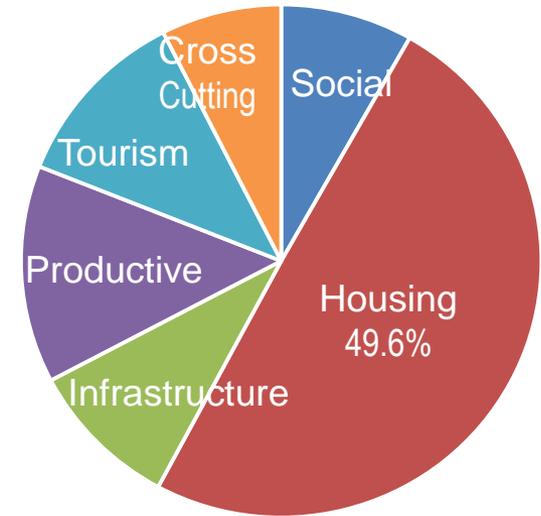
Indian Ocean Earthquake and Tsunami



Great East Japan Earthquake



Nepal Earthquake



2. Comparison of Recent Disasters and Housing Reconstruction Approach

Importance of Housing Reconstruction

- Housing Reconstruction is Important and Complex
 - Housing reconstruction budget accounts for about 50% of total recovery budget in last 50 years (GFDRR)

Country	Approximate percent of budget related to housing reconstruction (GFDRR - Various PDNAs ²)
Haiti 2010	53%
Nepal 2015	45%
Pakistan 2005	45%
Yogyakarta 2006	52%

Source: UN-Habitat/AXA (2019), Supporting Safer Housing Reconstruction After Disasters - Planning and Implementing Technical Assistance at Scale

- Housing Reconstruction is the highest priority issue in disaster recovery
- Various Housing Reconstruction Approaches have been developed and implemented

2. Comparison of Recent Disasters and Housing Reconstruction Approach

Housing Reconstruction Approaches

- **Cash Approach:** Unconditional Financial assistance is given without technical support.
- **Owner-Driven Reconstruction:** Conditional Financial assistance is given, accompanied by regulations and technical support aimed at ensuring that houses are built back better.
- **Community-Driven Reconstruction:** Financial and/or material assistance is channeled through community organizations that are actively involved in decision making and in managing reconstruction.
- **Agency-Driven Reconstruction *in-Situ*:** Refers to an approach in which a governmental or nongovernmental agency hires a construction company to replace damaged houses in their pre-disaster location.
- **Agency-Driven Reconstruction in Relocated Site:** Refers to an approach in which a governmental or nongovernmental agency hires a construction company to build new houses in a new site.

Source: World Bank (2010), “**Safer Homes, Stronger Communities A Handbook for Reconstructing after Natural Disasters**”

2. Comparison of Recent Disasters and Housing Reconstruction Approach

Housing Reconstruction Approaches

	Gujarat (India) earthquake (2001)	Sri Lanka earthquake / tsunami (2004)	Indonesia (Aceh and Nias) earthquake / tsunami (2004)	Katrina (USA) hurricane (2005)	Pakistan earthquake (2005)	GEJE (2011)	Nepal (2015)
Reconstruction strategy	80% owner driven reconstruction program and 20% public-private partnerships (NGO's) driven program.	As of November 2006, policy change leading to 73% owner driven reconstruction program and 27% donors or NGO-driven program.	100% donor and NGO driven program.	100% Government sponsored contractor driven program.	100% owner driven reconstruction program.	100% Government sponsored contractor driven program.	100% owner driven reconstruction program.

Recommendations

1. When reconstruction is simple and mainly entails repair of damaged housing that is otherwise adequate, adopt CA; otherwise, whenever possible, adopt ODR.
2. Use CDR when community life and the local economy is disrupted by the disaster or relocation is required, or both.
3. Avoid ADRIS in rural areas and in places where the built environment and natural habitat are significantly intact.
4. If ADRRS is absolutely necessary, government should require community participation and establish simultaneous audit and oversight mechanisms.
5. Help communities rebuild their houses with facilitation and other appropriate enabling mechanisms identified through a social assessment that focuses on vulnerable households.
6. Ensure that reconstruction agencies take into consideration people's different housing needs, vulnerabilities, livelihoods, and family size in selecting reconstruction approaches and that socioeconomic factors and gender-related requirements are addressed.
7. Under every approach, ensure that construction methods embody good planning, risk reduction, and environmental principles.
8. Require community participation in all aspects of the process, even when outside agencies or the private sector are in the lead.

Source: World Bank (2010), "Safer Homes, Stronger Communities A Handbook for Reconstructing after Natural Disasters"

3. Institutional Arrangement for Housing Reconstruction



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Housing Reconstruction Program - Principle

1. Housing Grant in Three Installments

- NPR 300,000 (\approx USD 3,000) in total
- NPR 100,000 upon Participation Agreement
- NPR 150,000 upon Foundation
- NPR 50,000 upon Roof Beam

2. Owner Driven Reconstruction

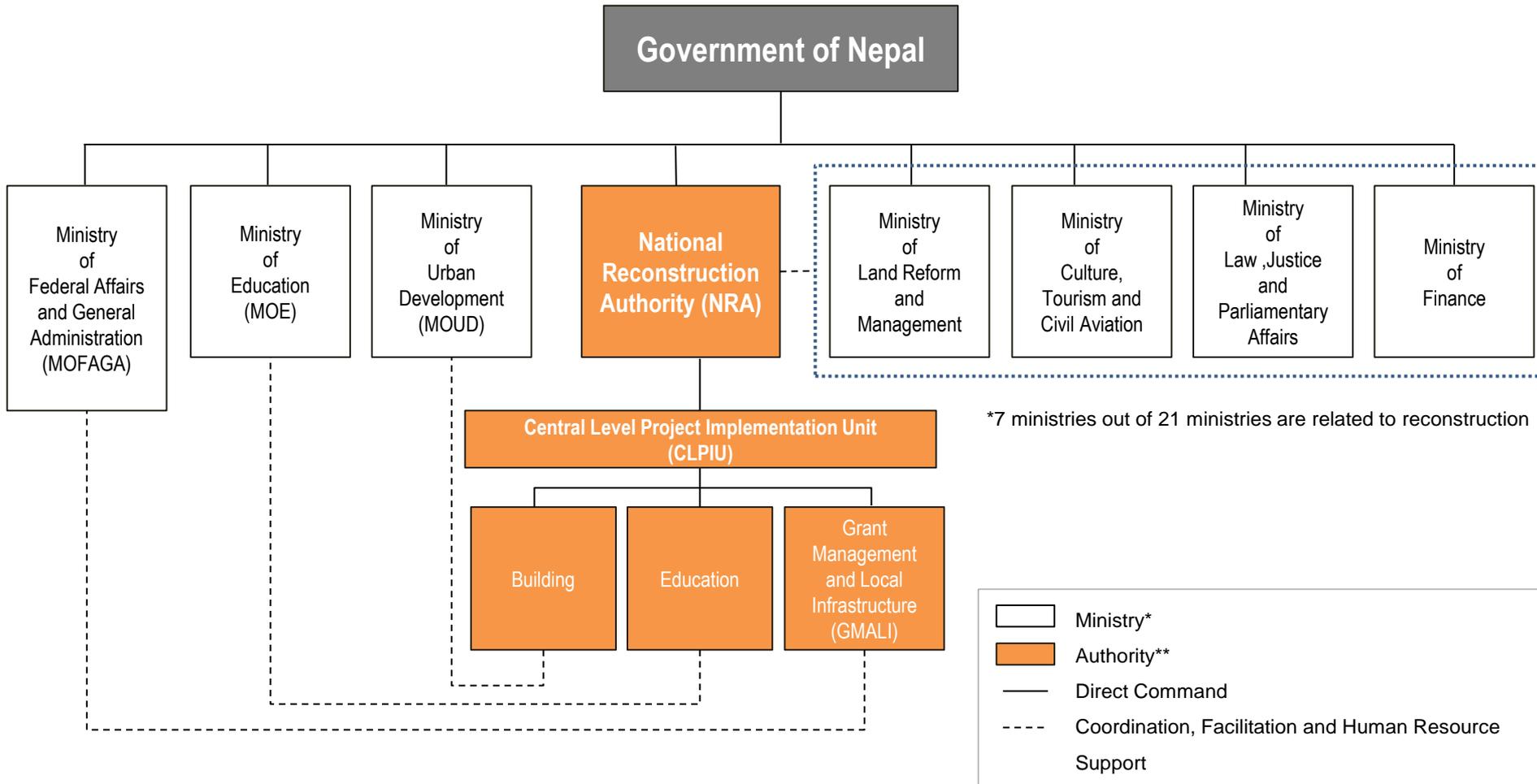
- House Owner at the Center of Reconstruction

3. Build Back Better

- Reconstruction according to Minimum Requirements

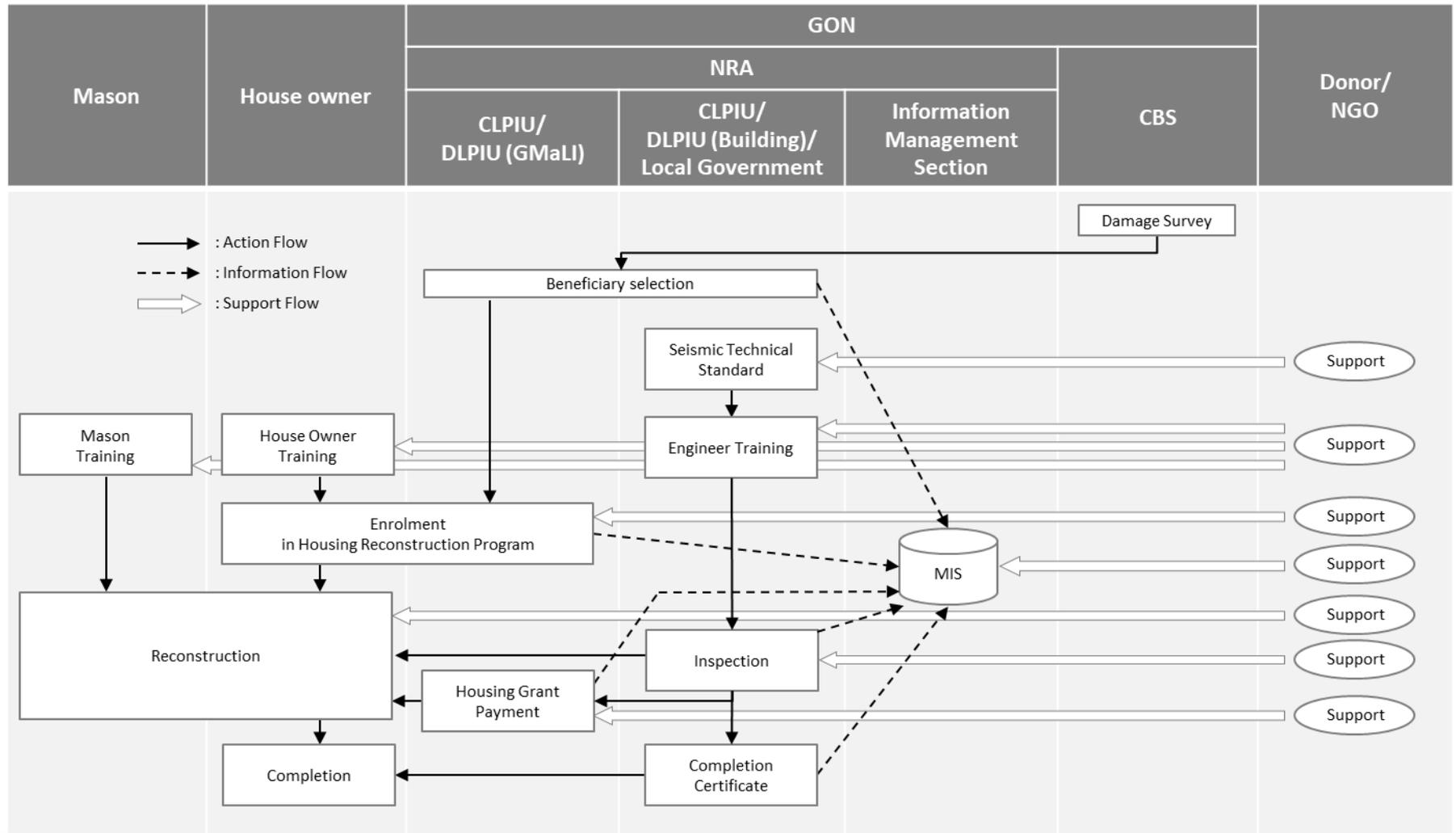
3. Institutional Arrangement for Housing Reconstruction

National Reconstruction Authority



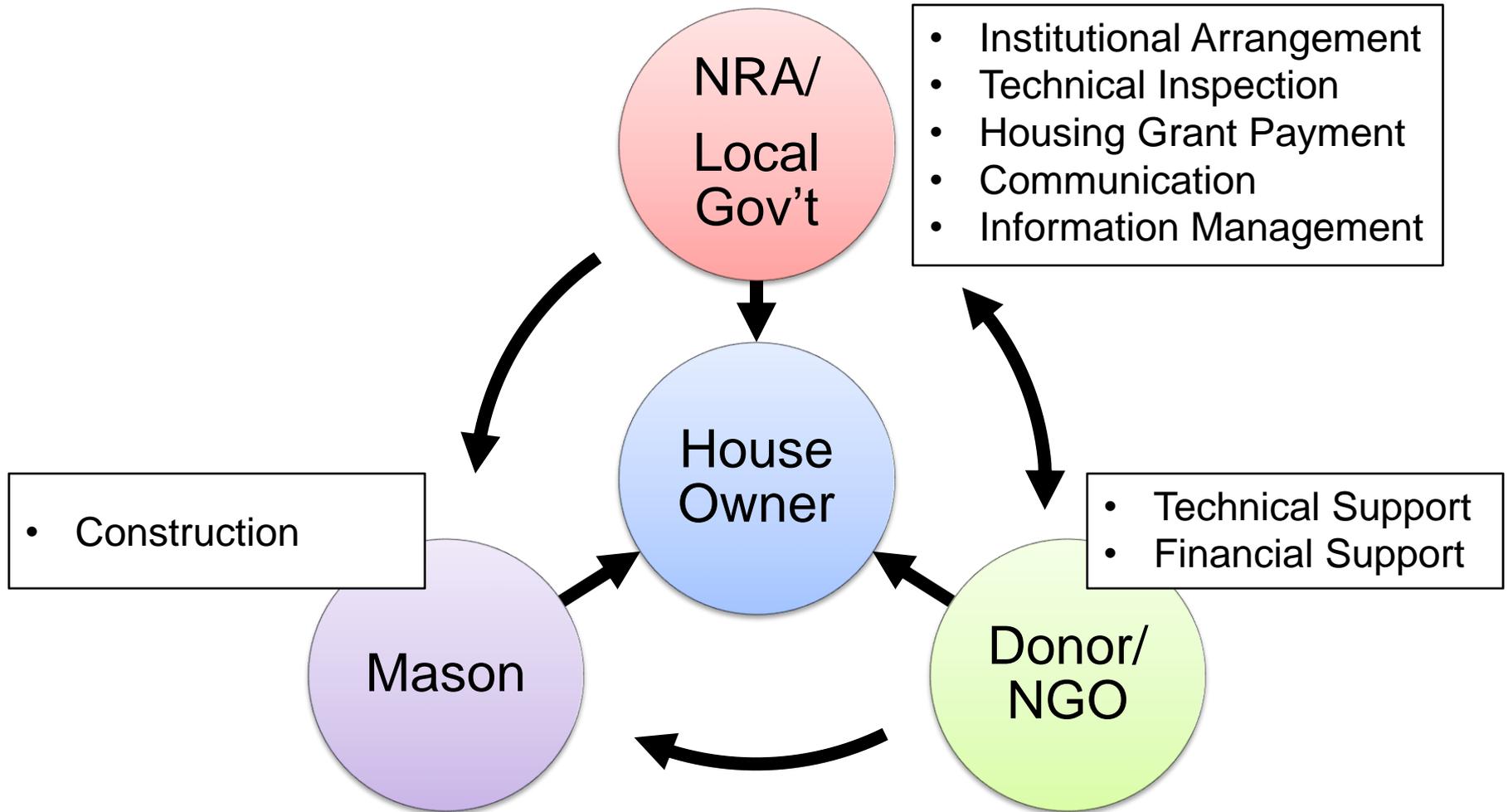
3. Institutional Arrangement for Housing Reconstruction

Housing Reconstruction Flowchart



3. Institutional Arrangement for Housing Reconstruction

Role



4. Challenges and Actions



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4. Challenges and Actions

Damage Survey >>> Beneficiary Selection



As of Oct 2019	
Grievance Registered:	629,097
Grievance Redressed:	355,707
(Identified as Beneficiary)	149,022
Grievance not Redressed:	273,390

4. Challenges and Actions

Enrolment Camp

Challenges

Don't Know How to Start



Guidelines

Housing Grant Guidelines (May 2016)



Action

Enrolment Camp



4. Challenges and Actions

Seismic Technical Standard

Challenges

Lack of Uniformed Standard



Guidelines

Minimum Requirements (Nov 2016)



Action

Dissemination



4. Challenges and Actions

House Owner / Mason Training

Challenges

Don't Know How to Reconstruct



Guidelines

Technical Handbook (Dec 2015)



Action

Training



4. Challenges and Actions

Engineer Training

Challenges

Don't Know How to Inspect



Guidelines

Inspection Guidelines (Nov 2016)



Action

Training



4. Challenges and Actions

Housing Reconstruction

Challenges

Low Reconstruction Start Rate



Guidelines

CBRC Directive (Nov 2016)



Action

Community Mobilization Program



4. Challenges and Actions

Community Mobilization Program (CMP)

Orientation

for Community Based Reconstruction Committee (CBRC)

+

Community Meeting

for all the house owners

+

Technical Assistance by Mobile Mason

(selected at the each community) to house owners and unskilled labors



Not received the second tranche

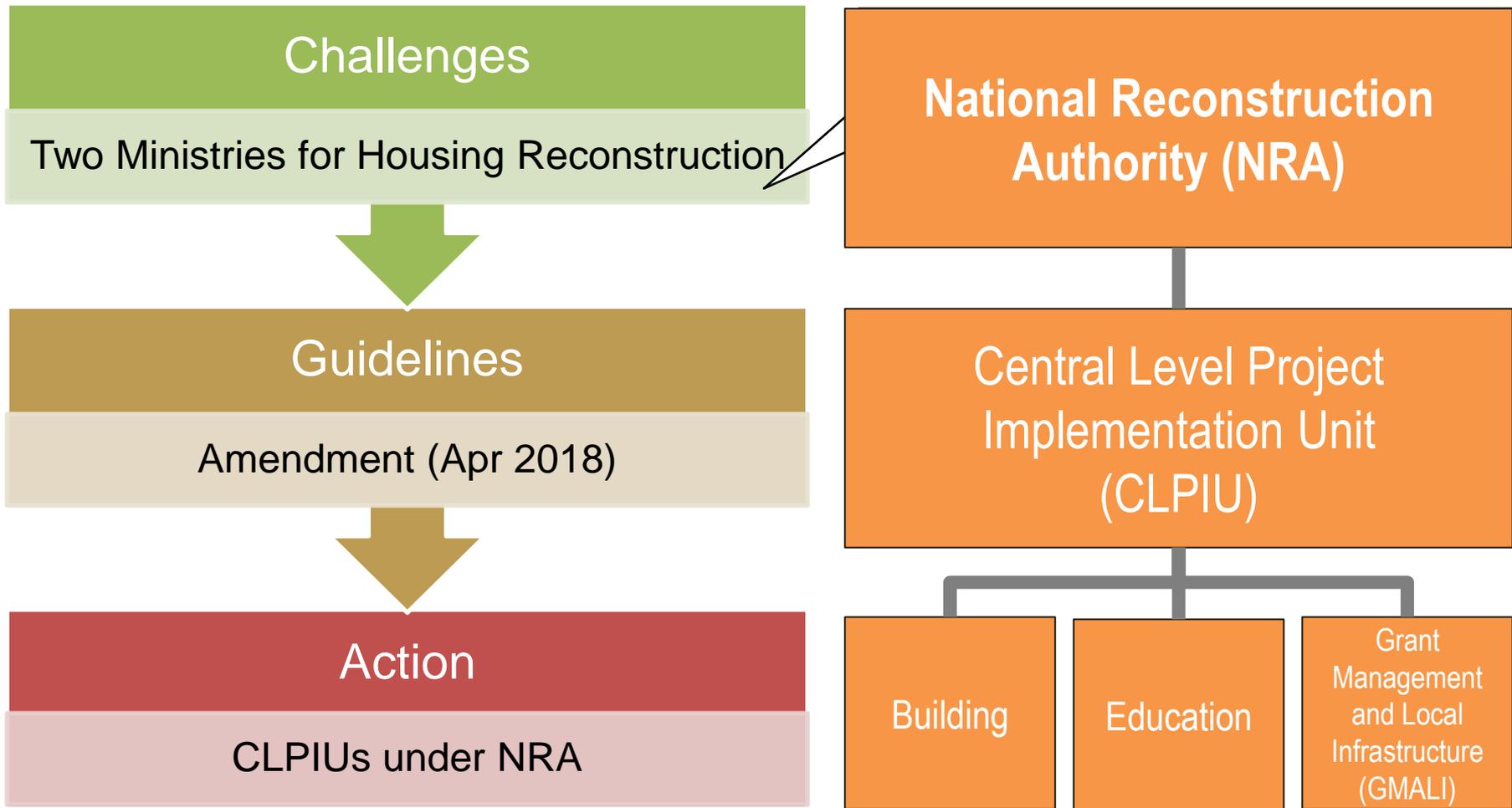
Already finished the reconstruction

Not yet started the reconstruction



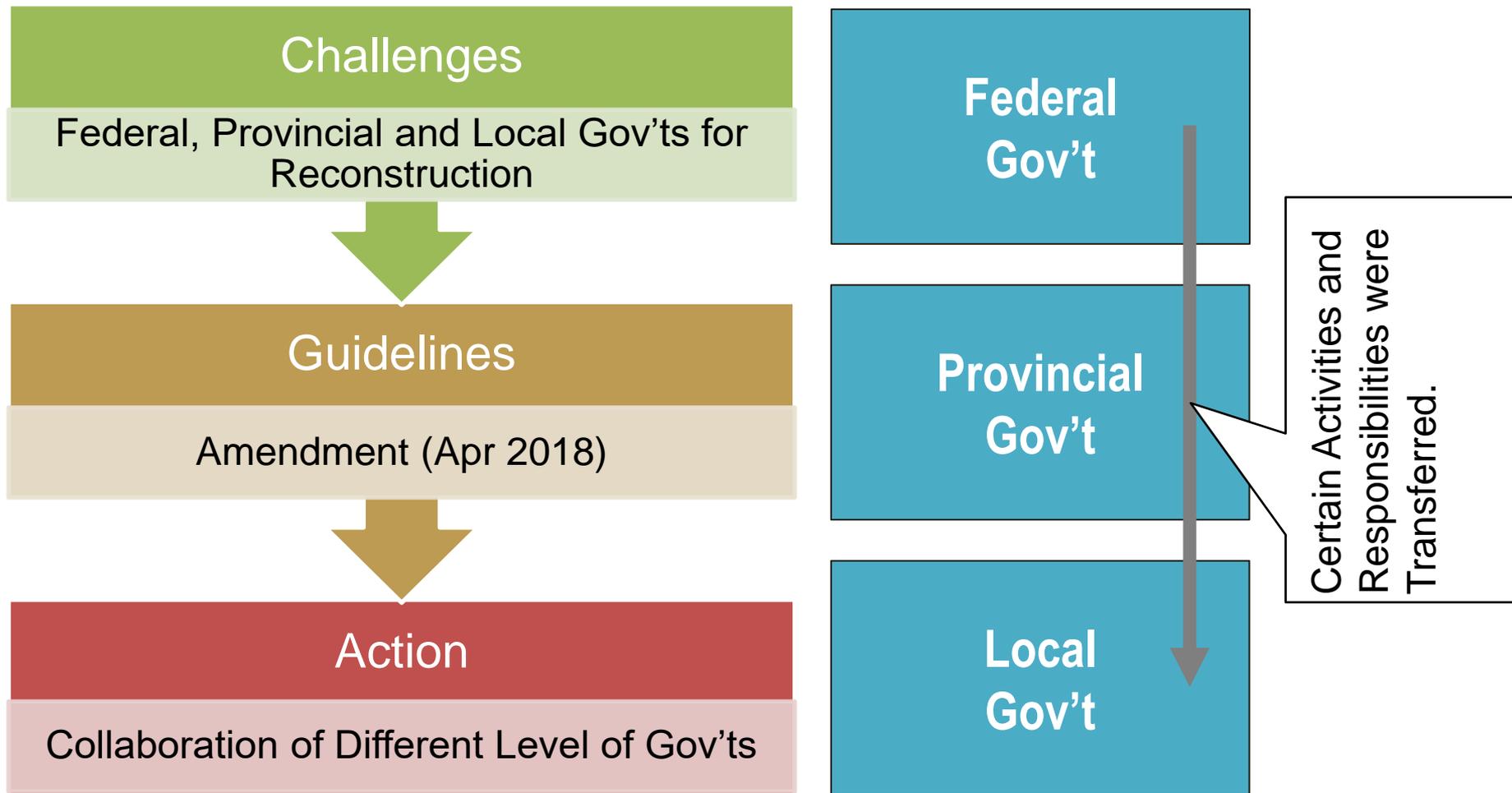
4. Challenges and Actions

NRA Composition



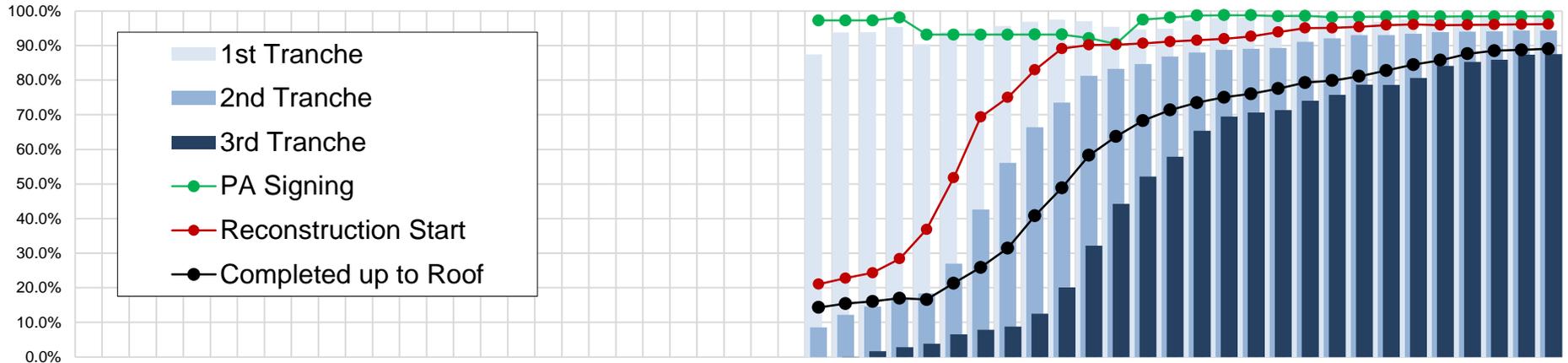
4. Challenges and Actions

Reconstruction in Transitional Period to Federal System



5. Housing Reconstruction Status (JICA Support Area)

5. Housing Reconstruction Status (JICA Support Area)



EARTHQUAKE (July 2015)

NRA (December 2015)

Housing Grant Guidelines (NPR 200,000) (April 2016)

Minimum Requirements (November 2016)

Revised Housing Grant Guidelines (NPR 300,000) (December 2016)

NRA Reform (April 2018)

Damage Survey (Jan-Mar 2016)

Enrolment Camp (Apr-Jun 2016)

Engineer Training (Jul-Sep 2016)

Mason & House Owner Training (Oct 2016 - Jan 2017)

Damage Re-Survey (Feb-Apr 2017)

Community Mobilization Program (CMP) (May 2017 - Oct 2018)

CMP (Nov 2018 - Oct 2019)

6. Way Forward



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7. Way Forward

Recommendations for Institutional Arrangement

1. Disaster Preparedness

- Responsible authority should be established immediately.
- Guidelines and Technical Standard should be set in place in advance.

2. Coordination among Ministries.

- Relevant institutions should be controlled by one responsible authority.

3. Owner Driven Approach

- Supplemental institutional support for Owner Driven Approach such as CMP is necessary

7. Way Forward

Important Tips for Owner Driven Approach

- Setting up mechanism is taking a certain time e.g. Nepal took around one year for (1) regulation, (2) inspection regime, (3) mason, (4) bank access, (5) procedures.
- And, setting up mechanism is not yet enough for ODR. Further need to (1) communicate, (2) facilitate, (3) mobilize.
- Of course, housing is the core output of ODR, we have to also raise the capacity in other dimensions like social, institutional and economic aspects. Just focusing with physical / tangible outputs is not enough for BBB. Rebuilding stronger houses does not mean BBB per se.
- Leaving no one behind is very important, but we should not compromise technical standard for its vulnerability. If we compromise the technical requirements for vulnerable people, they would definitely have to pay back such treats in the next disaster with losing their houses and facing same difficulties. We have to enhance their capacity rather than just treating them.

Thank you



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