

Climate Change, Worker Vulnerability and Adaptive Social Protection

Teguh Dartanto

Dean, Faculty of Economics and Business, Universitas Indonesia
teguh.dartanto@ui.ac.id

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Climate Change will ...

- 1.** Lead to increased frequency and intensity of extreme weather events, such as floods, droughts, and storms.

- 2.** Damage or destroy workplaces, disrupt supply chains, and lead to job losses.

- 3.** Impact on workers including job losses, reduced earning, increase health risks and displacement, increase costs

Climate Change Related Disasters & Human Victims

Table 1. Number of human victims of natural disasters in Indonesia 1969–2015

Natural Disaster	1969–1985					1986–1999					2000–2015				
	Death	Injured	Missing	Affected	Evacuated	Death	Injured	Missing	Affected	Evacuated	Death	Injured	Missing	Affected	Evacuated
Earthquake	975	866	1,000	47,547	5,434	3,925	10,838	436	3,66,083	91,750	8,527	57,934	64	1,94,757	26,80,747
Earthquake and Tsunami	571	273	1,940	—	171	2,497	—	1,017	381	—	1,67,780	3,988	6,333	43,26,687	4,62,339
Eruption	415	113	3	—	14,161	69	12	—	5,452	—	427	3,478	4	54,674	3,30,849
Floods	575	2,520	239	32,677	14,780	845	1,910	192	2,28,163	1,600	2,156	1,90,588	668	153,74,281	51,16,347
Floods and Landslide	702	48	5,001	3,000	496	317	103	65	4,432	—	3,737	43,165	520	6,46,379	5,85,777
Drought	—	—	—	—	—	—	—	—	—	—	2	—	—	28,58,889	—
Forest Fire	—	—	—	—	—	—	—	—	—	—	37	13,485	—	4,43,267	2,739
Strong Wind	7	9	—	—	625	11	13	—	2,616	2,278	328	2,752	41	2,48,797	25,619
Others	506	—	—	—	—	3,788	—	—	3,02,573	—	6,464	87,398	2,522	39,395	1,09,713
Total	3,751	3,829	8,183	83,224	35,667	11,452	12,876	1,710	9,09,700	95,628	1,89,458	4,02,788	10,152	241,87,126	93,14,130

Source: Author's compilation based on the BNPB data (available at <http://dibi.bnpb.go.id>, accessed per 24 January 2016)

Source: Dartanto, 2021

Note: except Earthquake, Tsunami, and eruption, other disasters are related to climate change

Climate Change Related Disasters and Economic Damage Costs

Table 2. Economic damages caused by natural disasters in Indonesia 1990–2015

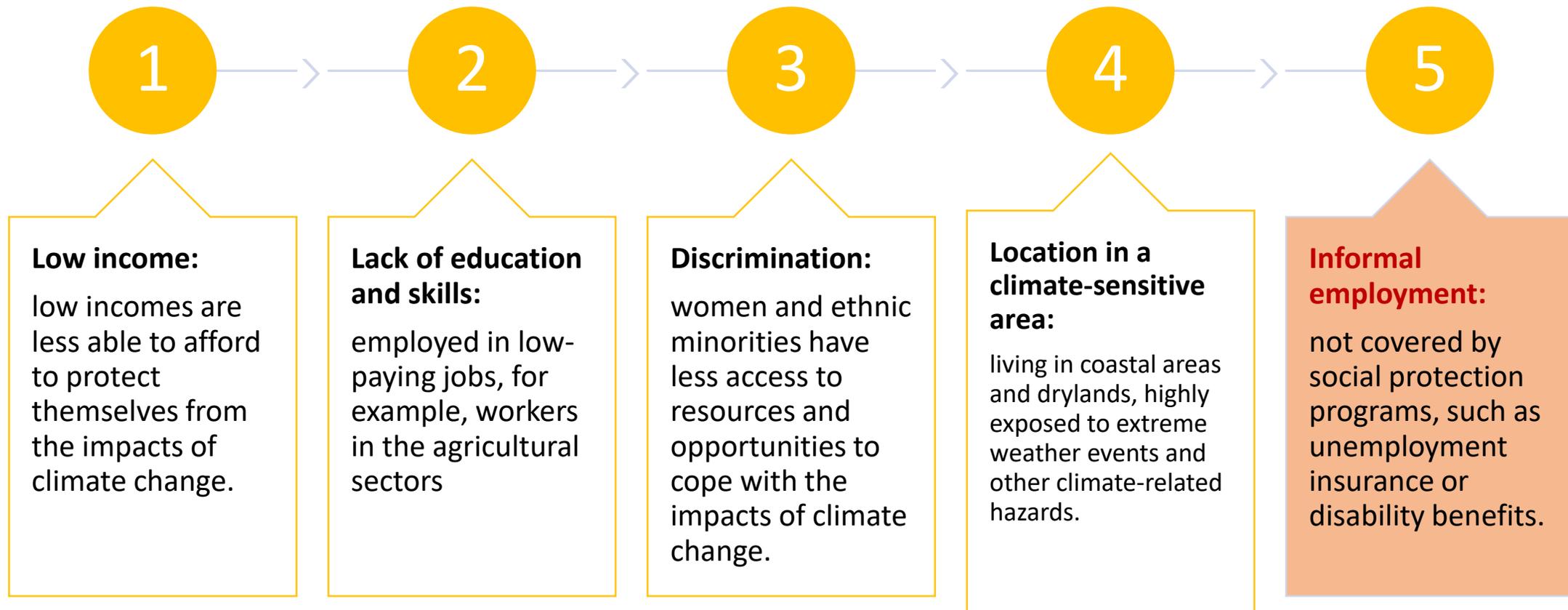
Damages	Heavily Damaged Houses	Moderately Damaged Houses	Lightly Damaged Houses	Prayer Facilities	Education Facilities	Health Facilities	Roads (km)	Damaged Soil (Ha)
Floods	83,168	6,691	164,012	2,398	6,102	2,063	61,238	1,470,702
Landslides	11,515	1,756	10,727	152	97	20	1,458	68,409
Floods & landslides	12,869	1,344	25,621	269	1,025	262	1,179	291,408
Abrasions	3,457	414	3,859	19	25	6	411	297
Earthquakes	242,125	6,870	356,706	9,109	20,246	1,873	2,037	1,993
Earthquakes & tsunamis	325,157	-	97,403	29	1,262	254	34,904	58,087
Forest fires	106	5	12	1	2	-	-	414
Drought	-	-	-	-	-	-	-	1,715,360
Volcanic eruptions	14,888	158	9,585	41	375	26	6	52,682
Waterspouts (strong winds)	34,290	19,083	105,521	412	551	82	134	16,754
Total	727,575	36,321	773,446	12,430	29,685	4,586	101,368	3,676,106

Source: Author's compilation based on BNPB data (available at <http://dibi.bnpb.go.id>; accessed 28 July 2016)

Source: Dartanto, 2021

Note: except Earthquake, Tsunami, and eruption, other disasters are related to climate change

Factors which make workers more vulnerable from **climate change**



Workers at **highest risks**



Climate Change

+



Informality

55.9% (2019)

60.5% (2020)

+



Low Income

+



Exclusion of Social
Protection

How to **Protect** Workers?



Adaptive Social Protection
Social Assistance + Social Insurance

Social Protection **for All** in Indonesia

Social Protection System in Indonesia

Social Assistance (Non-Contributory)	Social Insurance (Contributory)
<ul style="list-style-type: none"> • Basic Social Protection: <ul style="list-style-type: none"> • Food (BPNT) • Energy • Human Capital Development: <ul style="list-style-type: none"> • Conditional Cash Transfer (PKH) • Indonesia Smart Card (PIP) • Pre-employment program (Pra-Kerja) • ASLUT • Occasional Program: <ul style="list-style-type: none"> • Wage Subsidy • Cash Transfer • Internet Subsidy 	<ul style="list-style-type: none"> • National Health Insurance (JKN) • Pension (JP) • Old Age Benefit (JHT) • Death/Life Insurance (JK) • Working Accident Insurance (JKK) • Unemployment Insurance (JKP) (added in 2021)  <p><i>Bias to formal sector!</i></p>

Potential Sources of **Exclusion**



Unavailable program (not designed yet)



Coverage of program (small investment)



Quick welfare mobility:
Not updated database for targeting (scatter data)



Used less robust methodology in targeting



Unclear graduation strategy



Administrative driven (state dominant)



**How to protect workers from
adverse impacts of climate change?**

Gradual Expansion of Protection (Social Insurance) for Vulnerable Workers

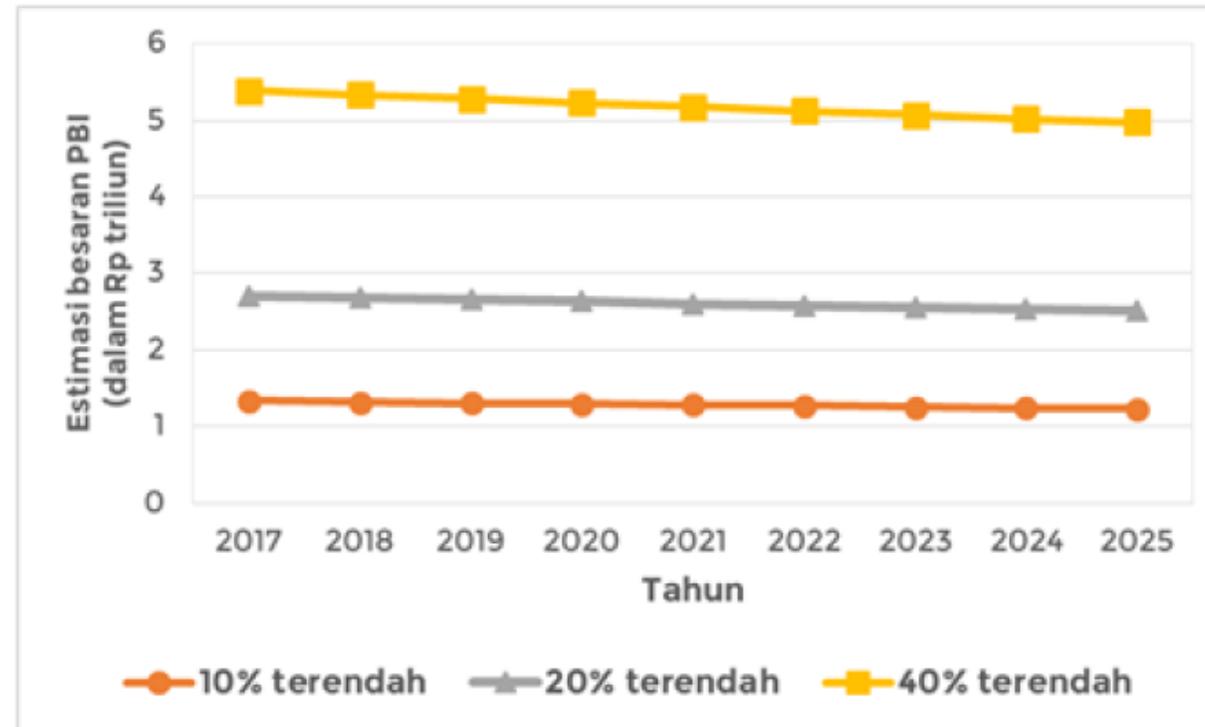
Penurunan Kesejahteraan		Peluang Kecelakaan Kerja dan Kematian Akibat Kecelakaan Kerja	
		1%	0,5 %
Tidak Miskin	Cakupan PBI: 40% Pekerja Rentan	182.722	96.610
	Cakupan PBI: 20% Pekerja Rentan	47.819	28.454
Tidak Miskin --> Miskin	Cakupan PBI: 40% Pekerja Rentan	32.123	12.943
	Cakupan PBI: 20% Pekerja Rentan	26.326	12.556
Miskin --> Makin Miskin	Cakupan PBI: 40% Pekerja Rentan	77.419	40.370
	Cakupan PBI: 20% Pekerja Rentan	73.314	37.294

Sumber: Hasil perhitungan penulis berdasarkan data Susenas 2017

Source: Dartanto et al., 2019

- In the presence of informality, providing premium subsidies (like JKN program) for social insurance will be “a wise policy”:
 - Working Accident Insurance (JKK) & Death Insurance (JKM)
- Due to fiscal space, encouraging workers in informal sectors to contributory join JHT & JP
- What about JKP for informal sectors? → on demand social assistance program

Fiscal Need for PBI Vulnerable Workers



PBI for Vulnerable Workers Needs: Dynamic Inclusion & Data Updating

(Barca & Hebbbar, 2020)

- Poverty, vulnerability and population are dynamic in nature that needs
 - Dynamic inclusion of newcomers
 - Dynamic exclusion and management: no longer eligible
 - Dynamic inclusion and management of changed circumstances due to shocks (job loss, crop failure, disability, natural disasters, conflict)
- The main challenge for capturing dynamic condition is **data updating**

Possibility of **Data Updating**

- **Permanent local offices:** Social welfare office (deconcentrated) (Mauritius, South Africa, Georgia), permanent local office (Brazil, Colombia, Indonesia, Cambodia)
- **Online, a digital window** (Azerbaijan, Chile, Turkey, Uzbekistan, and South Africa): complementing with other registration approach
- Periodic “active” outreach (South Africa, Pakistan, Lesotho, Zambia, Mexico, Brazil):
- Integrating of existing databases (Mongolia, Uganda, Argentina, Chile, Turkey: CRVS (Civil Registration and Vital Statistics))
- Humanitarian database

Comparison: On Demand vs. Administrative Driven (Barca & Hebbbar, 2020)

Indicator Comparison	“Pure” on Demand Approaches	Administrative Driven Approaches
Key distinguishing feature	<ul style="list-style-type: none"> Initiative: people > state People: specific individuals/families Timetable: applicant’s own timing 	<ul style="list-style-type: none"> Initiative: people < state People: mass registration Timetable: administrative decision
Financing requirement	<ul style="list-style-type: none"> Requires continuous and flexible budget 	<ul style="list-style-type: none"> Requires fixed/decided budget
Delivery capacity	<ul style="list-style-type: none"> Requires flexibility in design & implementation 	<ul style="list-style-type: none"> Requires temporary in design & implementation
Relative advantages	<ul style="list-style-type: none"> Dynamic, ongoing entry, easy to update More democratic approach Lower cost due to self-selection 	<ul style="list-style-type: none"> Better chance to reach the poorest and vulnerable groups who are less informed Lower marginal registry cost Capturing objective conditions (no misreporting)
Relative disadvantages	<ul style="list-style-type: none"> Low uptake: poor may not participate due to lack of information, barrier to access Misreporting of condition and no information of Geo tagging Verification 	<ul style="list-style-type: none"> Inflexible registration Cannot fully capture the welfare mobility Costly in re-registration
Best suited for	<ul style="list-style-type: none"> Low poverty rate, more on vulnerable group Well informed society 	<ul style="list-style-type: none"> High poverty group For quick and large programs

THANK YOU



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