Fatal and non-fatal accidents in land consolidation civil engineering work in Japan in 1999-2021

land consolidation civil engineering work industry Code No.030109

Type of accidents in land consolidation civil engineering work in 1999-2021

Type of accidents	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	total	Type of accidents
fall from height	150	130	114	120	91	87	99	82	84	86	63	73	63	59	75	69	51	61	70	71	61	71	76	1,906	fall from height
falling to same level	73	86	55	57	49	29	37	62	33	41	34	35	29	38	33	46	34	30	27	39	29	33	30	959	falling to same
crash	48	31	34	25	17	18	25	29	17	23	12	14	15	19	20	10	15	15	9	10	13	10	9	438	crash
struck by flying or falling object	100	92	71	62	68	42	50	57	44	44	37	29	34	38	42	38	32	31	30	26	23	31	22	1,043	struck by flying or falling object
collapse	33	27	31	29	19	22	20	18	31	16	10	21	19	9	14	12	10	10	13	13	13	15	5	410	collapse
crashed by	96	64	67	66	57	55	44	48	42	34	26	28	31	26	27	38	30	23	28	27	24	29	25	935	crashed by
caught in/between	133	145	111	117	85	99	82	78	67	71	68	34	48	47	47	62	48	44	67	43	49	44	35	1,624	caught in/between
cut	56	51	35	43	34	42	31	29	35	27	44	28	15	24	23	23	22	19	31	30	20	22	32	716	cut
injury to the sole of the foot	2		6	2	2	4	2	2	1	3	2		1	3	1	4	2	3		2		2	1	45	injury to the sole of the foot
drown					1						1	1	2			3						1		9	drown
contact to high/low- temperature	8	9	6	8	5	5	7	5	7	7		5	3	4	8	5	4	1	5	5	8	8	5	128	contact to high/low- temperature

contact to harmful substance			3				2		1	1			1										2	10	contact to harmful substance
electric shock							1			1										1				3	electric shock
explosion													1											1	explosion
burst	1									1														2	burst
fire		1		1	1											1								4	fire
traffic accident (public road)	26	12	28	19	30	9	11	12	18	6	8	10	8	7	13	7	11	11	9	2	12	12	13	294	traffic accident (public road)
traffic accident (others)	1	1		2				1					1					1					1	8	traffic accident (others)
reaction to motion/improper motion	31	32	30	23	19	23	18	17	18	20	23	11	14	16	14	14	8	23	22	21	22	18	20	457	reaction to motion/improper motion
others	4	3	2	2	2	3	4	8	2	3	1	3	4	3	2	5	1	1	4	3	2	2	13	77	others
unclassifiable			1		2		1		1		1			1	2		1				2			12	unclassifiable
total	762	684	594	576	482	438	434	448	401	384	330	292	289	294	321	337	269	273	315	293	278	298	289	9,081	total

Causal agents (large) of fatal and non-fatal accidents in land consolidation civil engineering work in 1999-2021

Causal (L) agents	1000	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2010	2020	2021	total	Causal (L)
Causar (L) agents		2000	2001	2002	2003	2004	2003	2000	2007	2000	2003	2010	2011	2012	2013	2014	2013	2010	2017	2010	2013	2020	2021	I I	agents
machine	189	167	140	148	132	128	118	115	105	101	101	73	80	74	71	89	80	66	88	70	72	70	74	2,351	machine
crane, conveying																									crane,

machine	141	109	103	103	93	69	73	70	75	66	52	46	47	52	67	62	42	54	65	49	47	51	57	1,593	conveying
macrime																									machine
other equipment	96	68	57	64	51	43	45	50	40	62	36	36	31	33	28	39	26	30	29	35	32	40	27	998	other
other equipment	90	00	57	04	31	43	43	30	40	02	30	30	31	33	20	39	20	30	29	33	32	40	27		equipment
tomporom buildings																									temporary
temporary buildings, establishments	112	111	94	91	73	63	66	79	67	61	43	43	43	44	44	44	41	45	50	48	38	50	52	1,402	buildings,
establishments																									establishments
substance, material	115	112	103	90	67	55	62	66	53	36	38	36	36	29	43	37	27	34	31	28	31	24	24	1,177	substance,
substance, material	113	112	103	90	67	33	02	00	55	30	36	30	30	29	43	37		34	31	20	31	24	24		material
load	14	19	14	22	7	10	5	11	8	6	7	1	4	10	9	5	7	4	8	8	5	11	7	202	load
environment	80	81	68	52	48	60	51	53	45	43	39	50	40	44	54	56	39	31	30	46	43	42	29	1,124	environment
others	15	17	15	6	11	10	14	4	8	9	14	7	8	8	5	5	7	9	14	9	10	10	19	234	others
total	762	684	594	576	482	438	434	448	401	384	330	292	289	294	321	337	269	273	315	293	278	298	289	9,081	total

Causal agents (middle) of fatal and non-fatal accidents in land consolidation civil engineering work in 1999-2021

Causal (M) agents	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	total	Causal (M) agents
engine	1				1			1																3	engine
power transmission mechanism			4	2		3				1					1			1	1			1		14	power transmission mechanism
woodworking machine	24	28	15	18	19	19	20	14	22	9	24	9	10	10	13	10	7	13	16	12	10	11	19	352	woodworking machine

construction machine	140	113	103	99	89	84	78	80	60	75	53	49	57	50	45	58	53	41	57	40	45	45	37	1,551	construction machine
metal manufacturing	6	8	11	11	6	6	9	5	7	7	7	5	3	6	4	5	7	4	2	7	2	6	6	140	metal manufacturing machine
general machine	18	18	7	18	17	16	11	15	16	9	17	10	10	8	8	16	12	7	12	11	14	7	10	287	general machine
mobile silviculture machine																	1				1		2	4	mobile silviculture machine
crane	23	21	15	20	21	18	18	14	17	18	12	5	11	8	14	13	8	13	16	12	10	11	12	330	crane
conveying machine	107	77	74	68	47	48	43	46	44	40	36	32	33	37	39	43	30	31	44	33	31	29	38	1,050	conveying machine
vehicle	11	11	14	15	25	3	12	10	14	8	4	9	3	7	14	6	4	10	5	4	6	11	7	213	vehicle
pressure vessel		2																	1					3	pressure vessel
chemical facilities																									chemical facilities
welding equipment	1								2			1	1							1			1	7	welding equipment
kiln, caldron							1																	1	kiln, caldron
electric equipment										2	1	1	1	1				1			1			8	electric equipment
human power machine,	27	29	22	25	22	13	13	18	13	19	11	13	8	10	10	10	9	7	9	14	7	11	4	324	human power machine, tools
																									11

tools	64	30	28	33	25	25	30	27	22	36	23	15	18	21	17	26	15	19	17	17	24	25	18	575	tools
other equipments,	4	7	7	6	4	5	1	5	3	5	1	6	3	1	1	3	2	3	2	3		4	4	80	other equipments, facilities
temporary buildings, establishments	112	111	94	91	73	63	66	79	67	61	43	43	43	44	44	44	41	45	50	48	38	50	52	1,402	temporary buildings, establishments
hazards, harmful substances	4	5	4	3	2		2	1	1				2		1	1				1			2	29	hazards, harmful substances
materials	111	107	99	87	65	55	60	65	52	36	38	36	34	29	42	36	27	34	31	27	31	24	22	1,148	materials
load	14	19	14	22	7	10	5	11	8	6	7	1	4	10	9	5	7	4	8	8	5	11	7	202	load
natural environment	80	81	68	52	48	60	51	53	45	43	39	50	40	44	54	56	39	31	30	46	43	42	29	1,124	natural environment
other causal agent	6	8	4	2	4	2	2	3	2	2			2			1		2	2	1	1		10	54	other causal agent
no causal agent	9	9	10	4	6	8	11	1	4	6	13	7	6	7	4	4	7	7	12	8	7	10	9	169	no causal agent
unclassifiable			1		1		1		2	1	1			1	1						2			11	unclassifiable
total	762	684	594	576	482	438	434	448	401	384	330	292	289	294	321	337	269	273	315	293	278	298	289	9,081	total

Causal agents (small) of fatal and non-fatal accidents in land consolidation civil engineering work in 1999-2021

Causal (S) agents	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	total	Causal (S) agents

engine			1		1																2	engine
power transmission mechanism		4					1					1			1	1			1		9	power transmission mechanism
circular sawing machine		5	5	12	6	7	4	9	3	4	3	7	2	1	3	5	6	4	2	5	93	circular sawing machine
band sawing machine																						band sawing machine
wood planer machine			1												1			1			3	wood planer machine
hollow chisel mortiser, wood borer																						hollow chisel mortiser, wood borer
chamfering machine, router, woodworking milling machine																				1	1	chamfering machine, router, woodworking milling machine
chain saw		8	11	5	8	11	1	13	5	5	6	5	7	3	7	9	5	5	9	13	136	chain saw
other woodworking machines		2	2	3		4	4	2	1	1	1	1	1	3	2	2	1				30	other woodworking machines
leveling, transporting or loading machine		18	21	14	19	14	15	7	4	6	4	6	9	11	6	10	2	8	6	6	186	leveling, transporting or loading machine
excavating machine		49	42	48	47	33	40	29	33	32	25	28	35	23	22	29	30	29	29	26	629	excavating machine
foundation work machine		8	5	2	2	1	2	2	2	3	1	1		2	2	5	1	2			41	foundation work

<u> </u>	 		 	 																		<u> </u>
hardening machine		16	5	6	2	4	5	8	2	6	9	2	3	6	1	1	3	3		3	85	hardening machine
demolition machine	3	3	2	2	4	3	2	1	2	5	2	2	4	3	4	2		2	3	1	47	demolition machine
vehicle for high lift work							1		1						1	1					4	vehicle for high lift work
other construction machines	ğ	9	14	6	6	5	10	6	5	5	9	6	7	8	5	9	4	1	7	1	123	other construction machines
lathe																						lathe
drill press, milling machine																						drill press, milling machine
grinding machine, buffing machine	5	5	2	5	2	5	5	7	4	1	6	2	2	6	3	2	6	2	6	4	75	grinding machine, buffing machine
power press														1							1	power press
forging pressure																						forging pressure hammer
shearing machine																						shearing machine
other metal manufacturing machines	(5	4	4	3	2	2		1	2		2	3		1		1			2	33	other metal manufacturing machines
centrifugal machine																						centrifugal machine
mixer, grinder			3		2	4		4	1	1	3	3	1	2		1	1	3		1	30	mixer, grinder
roll machine (except printingroll machine)																						roll machine (except printingroll machine)
injection molding																						injection molding

machine																						machine
food manufacturing																						food manufacturing
printing machine																						printing machine
industrial robot																						industrial robot
other general power machines		7	14	11	13	12	9	13	9	9	5	5	15	10	7	11	10	11	7	9	187	other general power machines
felling machine														1				1			2	felling machine
mobile logging machine																				1	1	mobile logging machine
skyline yarding machine																						skyline yarding machine
other mobile silviculture machine																				1	1	other mobile silviculture machine
crane		2	2	3	1	3	1			2			2	2			1	1			20	crane
mobile crane		13	19	14	13	14	16	11	5	9	7	14	10	6	12	16	10	9	11	10	219	mobile crane
derrick crane																						derrick crane
elevator, lift																	1				1	elevator, lift
cargo lifting appliance																						cargo lifting appliance
gondola											1										1	gondola
lumberyard																						lumberyard
equipment, logging								1													1	equipment, logging
cableway																						cableway

	 Щ		 <u> </u>	<u> </u>		<u> </u>		<u> </u>	1	<u> </u>	1	<u> </u>	<u> </u>	<u> </u>	_								
simple skyline																							simple skyline
yarding equipment																							yarding equipment
other powered					1			1						1		1					2	6	other powered
crane																							crane
truck		63	40		42	41	41	36	31	32	30	37	35	40	28	27	38	32	24	22	34	673	truck
forklift		2			1						1				1					1	1	7	forklift
railway equipment						1			1				1				1					4	railway equipment
conveyor		1	2			1	1		1		1			1			2		2	1	1	14	conveyor
loader		2					1						2						1	2		8	loader
straddle carrier																							straddle carrier
rough terrain hauler		2	3			2		2	1		1		1	1		1	3		3	2	2	24	rough terrain hauler
other powered		4												1	1	1		1		1		20	other powered
conveying machines		4	2			I	1	2	2							3			ľ			20	conveying machines
cars, bus,		14	24		11	10	14	8	4	7	3	7	14	6	4	9	5	4	6	11	7	168	cars, bus,
motorcycle		14	24			10	14	0	4		3		14				5	4				100	motorcycle
railway vehicle																							railway vehicle
other vehicles			1		1					2						1						5	other vehicles
boiler																							boiler
pressure vessel																							pressure vessel
other pressure																	1					1	other pressure
vessels																						ľ	vessels
chemical facilities																							chemical facilities
gas welding							1				1										1	3	gas welding

equipment																						equipment
arc welding equipment						1			1								1				3	arc welding equipment
other welding equipment																						other welding equipment
kiln, caldron																						kiln, caldron
industrial dryer																						industrial dryer
other kiln, caldron				1																	1	other kiln, caldron
transmission							1														1	transmission
electric power facilities								1	1												2	electric power facilities
other electrical equipment							1			1	1				1			1			5	other electrical equipment
human power cranes			2				1							1	1	1					6	human power cranes
human power		4	1	2	2		3		2	1	1	1	1				2	1	1		22	human power hauling equipment
human power machine					1							1				1	1	1	1		6	human power machine
hand tool		18	19	11	15	13	15	11	11	7	9	8	9	8	6	7	11	5	9	4	196	hand tool
ladder		13	11	21	16	12	19	16	11	15	12	14	13	6	15	10	13	12	19	14	262	ladder
slinging tool		7	8	6	5	4	7	4	1	1	5	1	5	5	2	4	1	5	3		74	slinging tool
other tools		8	6	3	6	6	10	3	3	2	4	2	8	4	2	3	3	7	3	4	87	other tools
other equipment,																						other equipment,

facilities		7	4	1	5	3	5	1	6	3	1	1	3	2	3	2	3		4	4	58	facilities
scaffolding		8	6	11	8	7	5	6	1	3	1	5	1	4	3	3	1	2	3	2	80	scaffolding
timbering		9	6	2	3	3	2	2	2	2	1	1	1			1	2	3	2	1	43	timbering
stairs, landing stage		4	2	1	3	6	2	6	2	2	3	4	2	1	4	2	1	2	4	4	55	stairs, landing stage
opening		7	1	1	1	2		1	1	1	2	2		3	1	3	1	3	2	2	34	opening
roof, beam, haze, crossbeam, principal rafter		2	3	3	3	1	4	3	2	3		2	1		2	1	2		1	2	35	roof, beam, haze, crossbeam, principal rafter
working platform, boot board		13	8	8	11	10	11	1	6	6	6	4	9	7	8	6	8	1	6	10	139	working platform, boot board
passage		17	22	12	20	9	11	7	9	7	13	9	11	14	13	15	16	14	14	15	248	passage
building, establishment		27	17	20	20	18	19	7	15	11	12	12	14	8	9	14	12	10	10	13	268	building, establishment
other temporary buildings, establishments		7	8	8	10	11	7	10	5	8	6	5	5	4	5	5	5	3	8	3	123	other temporary buildings, establishments
explosive substance						1						1									2	explosive substance
inflammable substance		1	1	1	1								1								5	inflammable substance
inflammable gas		1															1				2	inflammable gas
harmful substance		2																		1	3	harmful substance
radiation																						radiation
other hazards,			1	1						2										1	5	other hazards,

	 _																			<u> </u>		<u> </u>
metal material	4	1	20	28	27	27	16	19	16	15	12	18	13	12	17	15	13	17	9	11	346	metal material
lumber, bamboo	16	6	12	8	12	8	2	5	5	2	6	4	5	5	6	7	3	7	6	3	122	lumber, bamboo
stone, sand, substance	2	1	21	14	13	13	11	9	8	8	7	11	8	4	6	5	9	5	4	2	179	stone, sand, substance
other materials	2	1	12	10	13	4	7	5	7	9	4	9	10	6	5	4	2	2	5	6	141	other materials
load	11	1	5	4	8	5	6	6	1	2	7	8	4	7	4	8	6	4	10	7	113	load
machine/equipment as load	3		2	1	3	3		1		2	3	1	1				2	1	1		24	machine/equipment as load
natural ground,	42	2	26	24	22	26	20	13	24	19	22	26	20	16	14	13	19	17	15	10	388	natural ground, rock
standing tree	13	3	16	17	19	12	15	22	18	11	12	12	15	15	14	7	13	16	13	10	270	standing tree
water			2					1		5	1		3			1	3		2		18	water
abnormal environment											1					1					2	abnormal environment
high/cold temperature environment	4		1	6	5	4	6		3	2	3	9	5	4	1	3	4	8	9	4	81	high/cold temperature environment
other environments	9		3	4	7	3	2	3	5	3	5	7	13	4	2	5	7	2	3	5	92	other environments
other causal agent	4		4	2	3	2	2			2			1		2	2	1	1		10	36	other causal agent
no causal agent	10	0	6	11	1	4	6	13	7	6	7	4	4	7	7	12	8	7	10	9	139	no causal agent
unclassifiable	1		1	1		2	1	1			1	1						2			11	unclassifiable
total	59	94	482	434	448	401	384	330	292	289	294	321	337	269	273	315	293	278	298	289	6,621	total

Workers age of fatal and non-fatal accidents in land consolidation civil engineering work in 1999-2021

Age	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	total	Age
19 years old or less	20	16	24	17	16	2	4	5	6	3	1	4	4	3	10	9	7	5	7	4	4	1	6	178	19 years old or less
20-29	113	104	93	114	55	67	57	58	55	41	37	39	33	45	32	34	30	32	35	26	19	48	39	1,206	20-29
30-39	79	77	78	82	75	70	61	80	73	72	57	54	57	46	46	42	35	45	40	34	36	26	35	1,300	30-39
40-49	119	110	99	81	92	68	65	64	51	67	43	50	42	60	59	67	62	59	57	58	61	52	60	1,546	40-49
50-59	194	198	154	151	131	134	127	132	101	99	94	74	71	60	68	85	42	55	63	71	59	58	57	2,278	50-59
60 years old or	237	179	146	131	113	97	120	109	115	102	98	71	82	80	106	100	93	77	113	100	99	113	92	2,573	60 years old or
more	237						120			102			02			100								'	more
total	762	684	594	576	482	438	434	448	401	384	330	292	289	294	321	337	269	273	315	293	278	298	289	9,081	total

Workers' number of workplace of fatal and non-fatal accidents in land consolidation civil engineering work in 1999-2021

Workers scale	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	total	Workers scale
9 workers or less	397	373	307	298	275	238	272	257	218	238	197	162	174	174	169	195	157	132	166	149	142	147	161	4,998	9 workers or less
10-29	278	228	207	200	153	147	115	147	146	121	98	107	89	96	119	100	80	105	116	110	100	107	104	3,073	10-29
30-49	54	55	52	46	29	34	37	32	21	16	25	12	18	13	26	28	24	25	26	26	22	36	17	674	30-49
50-99	25	21	24	24	20	12	8	9	13	7	9	6	4	8	4	12	8	6	4	6	10	5	7	252	50-99
100-299	8	7	4	8	5	7	2	3	2	2	1	4	3	3	2	2		5	3	1	4	3		79	100-299
300 workers or									1			1	1		1					1				5	300 workers or
more												L L													more
total	762	684	594	576	482	438	434	448	401	384	330	292	289	294	321	337	269	273	315	293	278	298	289	9,081	total

Month	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	total	Month
January	53	65	56	37	43	37	41	31	36	22	38	31	23	19	27	30	18	17	27	24	23	15	27	740	January
February	69	64	55	57	54	49	33	43	37	26	34	21	31	21	25	35	18	27	24	33	28	28	24	836	February
March	79	77	59	77	43	48	40	39	41	39	33	36	22	33	31	25	23	17	26	25	16	27	31	887	March
April	60	42	60	45	33	39	42	38	37	30	22	29	18	27	32	26	19	22	25	25	22	23	21	737	April
May	61	43	54	52	31	37	22	19	29	41	34	11	20	17	24	20	22	29	23	14	21	16	30	670	May
June	55	52	38	46	43	28	38	47	31	26	19	18	25	26	22	29	21	26	23	33	21	29	24	720	June
July	84	56	55	31	39	38	43	40	25	55	31	25	20	23	28	39	16	28	35	33	27	18	33	822	July
August	53	65	34	48	31	33	30	33	31	34	16	15	21	25	25	29	32	21	24	27	21	24	20	692	August
September	55	63	44	45	42	28	35	44	39	33	23	27	24	24	32	27	40	22	20	21	30	33	23	774	September
October	56	61	48	48	40	34	34	44	31	28	24	30	30	22	23	29	19	25	36	24	26	32	21	765	October
November	64	46	48	45	42	37	42	36	33	21	28	22	29	22	29	23	20	19	25	18	23	27	24	723	November
December	73	50	43	45	41	30	34	34	31	29	28	27	26	35	23	25	21	20	27	16	20	26	11	715	December
total	762	684	594	576	482	438	434	448	401	384	330	292	289	294	321	337	269	273	315	293	278	298	289	9,081	total

Prefecture of fatal and non-fatal accidents in land consolidation civil engineering work in 1999-2021

	اروور	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	total	Prefecture
Hokkaido 37	7	20	26		9		19	13	10	12	23	19	10	10	13	14	16	19	16	20	12	28	18	364	Hokkaido
Aomori 9		7	8		1		1	4	2	2	2	1	3	1	2	2	2	1	2	1	1	3	2	57	Aomori
lwate 12	2	10	9		11		2	10	3	2	5	4	10	3	4	13	10	6	9	8	8	4	2	145	lwate

Miyagi	6	7	6	13	3	12	9	15	9	4	9	7	3	10	11	8	4	6	14	6	16	178	Miyagi
Akita	12	4	10	6	6	11	9	1	7	6	5	9	14	8	5	1	13	7	10	16	12	172	Akita
Yamagata	6	11	4	2	2	1	6	4	4	2	1	6	2	2	1	5	4	7	4	5	4	83	Yamagata
Fukushima	19	13	9	12	8	6	16	10	6	10	5	14	12	8	4	4	6	5	7	5	11	190	Fukushima
Ibaraki	24	13	17	9	7	14	8	11	7	7	1	3	5	1	3	2	4	1	3	4	6	150	Ibaraki
Tochigi	12	9	11	5	2	4	3		5	4	4	7	8	5	1	5	6	1	3	4	2	101	Tochigi
Gunma	18	17	13	15	7	8	5	9	8	4	10	4	4	4	5	5	3	5	5	7	12	168	Gunma
Saitama	16	31	29	13	11	16	23	19	12	6	6	15	9	15	7	5	16	16	11	9	10	295	Saitama
Chiba	18	19	18	21	11	24	15	25	18	14	12	18	18	16	16	12	21	16	11	28	7	358	Chiba
Tokyo	17	15	21	16	15	15	20	12	17	14	11	9	16	10	10	9	23	8	10	11	11	290	Tokyo
Kanagawa	14	34	38	36	42	36	33	30	29	16	37	33	27	25	26	30	16	24	17	17	20	580	Kanagawa
Niigata	18	18	17	8	10	17	12	3	7	9	8	6	4	9	1	4	5	8	4	3	7	178	Niigata
Toyama	9	10	3	3	5	2	5	5	1	7	2		4	4	5	5	5	1	3	6	2	87	Toyama
Ishikawa	5	8	6	2	4	4	2	2		5	3	3		1	1	2	5	3	2	3	5	66	Ishikawa
Fukui	10	8	2	5	4	1	2	2	2	3	2	3	1	1	7			2	2	2		59	Fukui
Yamanashi	10	9	10	2	3		3	1		1	1	2	1	4	1	4	1	5			1	59	Yamanashi
Nagano	23	13	9	16	10	5	3	10	8	4	6	2	5	6	5		8	3	8	5	5	154	Nagano
Gifu	33	20	24	8	2	2	8	3	2	8	3	2	4	7	7	3	4	2	8	6		156	Gifu
Shizuoka	25	25	14	13	11	15	16	13	10	11	15	11	12	14	12	6	6	14	12	7	12	274	Shizuoka
Aichi	26	15	15	10	16	9	15	13	18	10	12	11	11	12	12	15	13	8	7	7	13	268	Aichi
Mie	22	8	11	10	10	11	12	13	12	5	7	6	8	7	8	8	8	9	6	4	11	196	Mie
Shiga	2	5	9	5	9	3	5	7	1			3	3		2				3	7	1	65	Shiga
Kyoto	18	10	6	3	7	9	10	8	6	4	5	3	3	3	2	1	4	2	1	1	3	109	Kyoto

Osaka	13	14	14	18	8	15	23	27	23	14	7	7	8	9	5	8	11	4	6	8	14	256	Osaka
Hyogo	33	36	27	30	32	21	11	16	8	11	11	9	11	17	8	9	15	15	9	6	4	339	Hyogo
Nara	32	16	10	17	6	12	6	14	8	4	8	9	3	5	2	7	5	5	2	1	8	180	Nara
Wakayama	26	7	12	9	10	13	11	9	5	7	6	3	9	7	4	8	2	4	3	2	1	158	Wakayama
Tottori	2	1	2	8	3	2	3	1	1	4	3	4	1	3								38	Tottori
Shimane	10	9	14	6	4	5	3	1	2		1	2	2	1	1	1		1	4	1	1	69	Shimane
Okayama	31	19	16	14	13	4	5	5	6	5	3	1	4	3	3	5	3	5	3	5	4	157	Okayama
Hiroshima	24	13	15	12	13	8	12	10	4	4	8	7	11	6	2	3	6	1		12	4	175	Hiroshima
Yamaguchi	7	12	9	10	7	9	5	13	3	1	3	5	6	7	4	6	4	6	7	8	6	138	Yamaguchi
Tokushima	2	7	3	4	4	4	1	6	2	1	2	1	3	3	4	3		1	1	8	1	61	Tokushima
Kagawa	4	6	2	6	5	2	2		3	5	3	6	2			6	5	2		4	4	67	Kagawa
Ehime	17	23	15	10	12	3	2		3	4	5	6	4	6	2	3	2	4	3	2	3	129	Ehime
Kochi	7	10	15	6	3	9	7	3	4	4	1	7	3	1	1	3	4	6	4	4	4	106	Kochi
Fukuoka	43	54	30	22	26	36	25	11	12	17	12	17	23	23	24	16	15	18	17	13	12	466	Fukuoka
Saga	6	10	4	6	3	4	1	2	3	4	6	2	7	4	6	5	7	5	4	6	7	102	Saga
Nagasaki	17	21	19	11	9	2	3	8	6	1	2	4	5	6	5	3	2	6	9	3	2	144	Nagasaki
Kumamoto	9	5	8	5	5	9	4	5	5	9	2	3	5	8		5	7	7	9	4	6	120	Kumamoto
Oita	15	16	10	13	16	9	7	7	1	6	5	4	10	7	9	9	8	6	2	2	3	165	Oita
Miyazaki	5	7	5	4	5	6	2	4	3	4	4	2		2		2	1	4	9	2	5	76	Miyazaki
Kagoshima	31	38	19	13	19	20	8	5	7	5	2	3	11	13	7	8	11	9	10	7	4	250	Kagoshima
Okinawa	7	1		4	4	3	5	5	2	4	7	1		5	2	3	5	2	4	2	3	69	Okinawa
total	762	684	594	482	434	448	401	384	330	292	289	294	321	337	269	273	315	293	278	298	289	8,067	total

Fatal and non-fatal accidents mean fatal and non-fatal injuries and occupational diseases with work absence of 4 days and more. Data of 2011 year include fatal and non-fatal accidents caused by Great East Japan Earthquake in 2011.

Data sources: https://anzeninfo.mhlw.go.jp/user/anzen/tok/anst00.htm (MHLW, Japan)

Return to https://www.jisha.or.jp/english/statistics/2021e_industry.html

Fatal accidents in land consolidation civil engineering work in Japan in 1999-2021

land consolidation civil engineering work industry Code No.030109

Type of fatal accidents in land consolidation civil engineering work in 1999-2021

Type of accidents	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	total	Type of accidents
fall from height	6	5	2	1	3	3	2	3	4		1	1	1	1	1			1	3	2			1	41	fall from height
falling to same level	1	3	1	1	1		1	1		1		2		1		1						1		15	falling to same level
crash	1																							1	crash
struck by flying or falling object	1	1	1							1	1					1	1	1						8	struck by flying or falling object
collapse	3	3	1	4	1	3	6	1	3	1	1	1			1				4		2	2		37	collapse
crashed by	1	4	3	1	1	4	1	3		3	1	1		1		2	2		4	1	2	1		36	crashed by
caught in/between	2	3	1	2		3		3	1	1	2			1	1	3	2		2	1	1	1	1	31	caught in/between
cut										1														1	cut

<u> </u>																									
injury to the sole of																									injury to the sole
the foot																									of the foot
drown											1		2			2								5	drown
contact to high/low- temperature	2	1				1		1		1											1			7	contact to high/low- temperature
contact to harmful substance		1								1														2	contact to harmful substance
electric shock								1																1	electric shock
explosion																									explosion
burst																									burst
fire																									fire
traffic accident (public road)	4	2	4	1	3		2				1	1				1			1		2			22	traffic accident (public road)
traffic accident (others)																									traffic accident (others)
reaction to motion/improper motion																									reaction to motion/improper motion
others			1				1						6											8	others
unclassifiable																									unclassifiable
total	21	23	14	10	9	14	13	13	8	10	8	6	9	4	3	10	5	2	14	4	8	5	2	215	total

Causal (L) agents	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2 201	3 2014	2015	2016	2017	7 2018	2019	2020	2021	total	Causal (L) agents
machine	6	8	2	2	3	5	3	8	3	4	5	2		2	1	4	1	2	5	1	3	2	1	73	machine
crane, conveying machine	7	7	7	4	3	3	2	2	1	1	1	2		2		2	2		4		2		1	53	crane, conveying machine
other equipment			1			1				1		1			1		1							6	other equipment
temporary buildings, establishments	2		1	3					1	2			1						2	1				13	temporary buildings, establishments
substance, material		2		1																				3	substance, material
load	1		1																					2	load
environment	5	6	1		3	5	8	3	3	2	2	1	8		1	4	1		3	2	3	3		64	environment
others			1																					1	others
total	21	23	14	10	9	14	13	13	8	10	8	6	9	4	3	10	5	2	14	4	8	5	2	215	total

Causal agents (middle) of fatal accidents in land consolidation civil engineering work in 1999-2021

Causal (M) agents	1000	2000	2001	2002	2003	2004	2005	2006	2007	2008	2000	2010	2011	2012	2013	2014	2015	2016	2017	2018	2010	2020	2021	total	Causal (M)
ausai (M) ageilts	1999	2000	2001	2002	2003	2004	2003	2000	2007	2008	2009	2010	2011	2012	2013	2014	2013	2010	2017	2010	2019	2020	2021	totai	agents

engine																								engine
power transmission mechanism																								power transmission mechanism
woodworking machine										1										1			2	woodworking machine
construction machine	6	8	2	1	3	5	3	8	3	3	5	2	2	1	4	1	2	5	1	2	2	1	70	construction machine
metal manufacturing machine																								metal manufacturing machine
general machine				1																			1	general machine
mobile silviculture machine																								mobile silviculture machine
crane		1	2	2								1				1						1	8	crane
conveying machine	6	4	5	1	2	3	1	2	1	1	1	1	2		2	1		3		1			37	conveying machine
vehicle	1	2		1	1		1											1		1			8	vehicle
pressure vessel																								pressure vessel
chemical facilities																								chemical facilities
welding equipment																								welding equipment

	_			<u> </u>	<u> </u>	<u> </u>		<u> </u>	<u> </u>			<u> </u>		<u> </u>	<u> </u>	<u> </u>	<u> </u>	 	<u> </u>	<u> </u>	<u> </u>	_	<u> </u>	
kiln, caldron																								kiln, caldron
electric equipment																								electric
electric equipment																								equipment
human power machine,																								human power
tools																								machine, tools
tools			1			1				1		1			1		1						6	tools
other equipments,																								other
facilities																								equipments,
- Identities																								facilities
temporary buildings,																								temporary
establishments	2		1	3					1	2			1					2	1				13	buildings,
establishments																								establishments
hazards, harmful																								hazards,
substances		1																					1	harmful
Substances																								substances
materials		1		1																			2	materials
load	1		1																				2	load
											2													natural
natural environment	5	6			3	5	8	3	3	2	2		8			4	I	3	2	3	3		64	environment
ath an assessed a seast																								other causal
other causal agent																								agent
no causal agent																								no causal
lio causai agent																								agent
unclassifiable																								unclassifiable
	===	====	====		===		===	-										 						-

total	21	23	14	10	9	14	13	13	8	10	8	6	9	4	3	10	5	2	14	4	8	5	2	215	total	
-------	----	----	----	----	---	----	----	----	---	----	---	---	---	---	---	----	---	---	----	---	---	---	---	-----	-------	--

Causal agents (small) of fatal accidents in land consolidation civil engineering work in 1999-2021

Causal (S) agents	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	total	Causal (S) agents
engine																									engine
power transmission																									power transmission
mechanism																									mechanism
circular sawing																									circular sawing
machine																									machine
band sawing																									band sawing
machine																									machine
wood planer																									wood planer
machine																									machine
hollow chisel																									hollow chisel
mortiser, wood																									mortiser, wood
borer																									borer
chamfering																									chamfering
machine, router,																									machine, router,
woodworking																									woodworking
milling machine																									milling machine
chain saw										1											1			2	chain saw
other woodworking																									other woodworking
machines																									machines

leveling,																								leveling,
transporting or	1	1		1	1	2	1	2	2	1	2						2	2	1		1		20	transporting or
loading machine																								loading machine
excavating machine	4	7	1		1	2	2	6	1	1	1	2	1	1	4			3		1	1		39	excavating machine
foundation work					1					1													2	foundation work
machine					ı					I														machine
hardening machine											1											1	2	hardening machine
demolition machine											1												1	demolition machine
vehicle for high lift																								vehicle for high lift
work																								work
other construction	1		1			1							1			1				1			6	other construction
machines													1							'			0	machines
lathe																								lathe
drill press, milling																								drill press, milling
machine																								machine
grinding machine,																								grinding machine,
buffing machine																								buffing machine
power press																								power press
forging pressure																								forging pressure
hammer																								hammer
shearing machine																								shearing machine
other metal																								other metal
manufacturing																								manufacturing
machines																								machines

centrifugal machine																centrifugal machine
mixer, grinder																mixer, grinder
roll machine (except																roll machine (except
machine)																machine)
injection molding																injection molding
food manufacturing																food manufacturing
printing machine																printing machine
industrial robot																industrial robot
other general power machines			1												1	other general power machines
felling machine																felling machine
mobile logging machine																mobile logging machine
skyline yarding machine																skyline yarding machine
other mobile silviculture machine																other mobile silviculture machine
crane														1	1	crane
mobile crane	1	2	2				1			1					7	mobile crane
derrick crane																derrick crane
elevator, lift																elevator, lift
II	11	11	11	11									1	11	11	

cargo lifting																				cargo lifting
appliance																				appliance
gondola																				gondola
lumberyard																				lumberyard
equipment, logging																				equipment, logging
cableway																				cableway
simple skyline																				simple skyline
yarding equipment																				yarding equipment
other powered																				other powered
crane																				crane
truck	4	2	4		2	1	1	1	1	1	1	1	1	2	1	1	1		25	truck
forklift		1	1																2	forklift
railway equipment																1			1	railway equipment
conveyor																				conveyor
loader		1																	1	loader
straddle carrier																				straddle carrier
rough terrain hauler	2			1		2		1					1			1			8	rough terrain hauler
other powered																				other powered
conveying machines																				conveying machines
cars, bus,	1			1	1		1									1	1			cars, bus,
motorcycle	Į	2		1	I											ı	I		8	motorcycle
railway vehicle																				railway vehicle
other vehicles																				other vehicles
boiler																				boiler

		 	 	 =	 ==	 							
pressure vessel													pressure vessel
other pressure													other pressure
vessels													vessels
chemical facilities													chemical facilities
gas welding													gas welding
equipment													equipment
arc welding													arc welding
equipment													equipment
other welding													other welding
equipment													equipment
kiln, caldron													kiln, caldron
industrial dryer													industrial dryer
other kiln, caldron													other kiln, caldron
transmission													transmission
electric power													electric power
facilities													facilities
other electrical													other electrical
equipment													equipment
human power													human power
cranes													cranes
human power													human power
hauling equipment													hauling equipment
human power													human power
machine													machine

hand tool																hand tool
ladder		1		1				1		1					4	ladder
slinging tool							1				1				2	slinging tool
other tools																other tools
other equipment,																other equipment,
facilities																facilities
scaffolding		1													1	scaffolding
timbering																timbering
stairs, landing stage																stairs, landing stage
opening																opening
roof, beam, haze,																roof, beam, haze,
crossbeam,									1				1		2	crossbeam,
principal rafter																principal rafter
working platform,																working platform,
boot board																boot board
passage																passage
building,	2		3			1	2					2			10	building,
establishment																establishment
other temporary																other temporary
buildings,																buildings,
establishments																establishments
explosive substance																explosive substance
inflammable																inflammable
substance																substance

-														 			 				 	4
inflammable gas																						inflammable gas
harmful substance		1																			1	harmful substance
radiation																						radiation
other hazards,																						other hazards,
harmful substances																						harmful substances
metal material																						metal material
lumber, bamboo		1		1																	2	lumber, bamboo
stone, sand,																						stone, sand,
substance																						substance
other materials																						other materials
load	1		1																		2	load
machine/equipment																						machine/equipment
as load																						as load
natural ground,	2	3			2	3	6	1	3			1		1			3		2	2	29	natural ground,
rock								ľ				_		<u> </u>							29	rock
standing tree	1	2	1		1	1	1			1	1				2	1		1		1	14	standing tree
water											1		8		2			1			12	water
abnormal																						abnormal
environment																						environment
high/cold																						high/cold
temperature	2	1				1	1	1		1									1		8	temperature
environment																						environment
other environments								1													1	other environments
other causal agent			1																		1	other causal agent

no causal agent																									no causal agent
no causal agent																									no causal agent
unclassifiable																									unclassifiable
total	21	23	14	10	9	14	13	13	8	10	8	6	9	4	3	10	5	2	14	4	8	5	2	215	total

Workers age of fatal accidents in land consolidation civil engineering work in 1999-2021

Age	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	total	Age
19 years old or less			1																1					2	19 years old or less
20-29	2	5	2	1	2	1		2			1	1							2					19	20-29
30-39	1	3		2			2	2	1	3	1		1				1							17	30-39
40-49	4	5	2	2	1	3	1	3	1	1	2	2	2	1		4	2		1		2	1	1	41	40-49
50-59	7	4	5	3	1	8	4	4	5		1	1	4	1	2	1		1	2	1	2	1	1	59	50-59
60 years old or more	7	6	4	2	5	2	6	2	1	6	3	2	2	2	1	5	2	1	8	3	4	3		77	60 years old or more
total	21	23	14	10	9	14	13	13	8	10	8	6	9	4	3	10	5	2	14	4	8	5	2	215	total

Workers' number of workplace of fatal accidents in land consolidation civil engineering work in 1999-2021

Workers scale	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	total	Workers scale
9 workers or less	9	12	8	6	6	6	4	9	4	7	4	6	4	1	2	6	3	1	6	1	5	4	2	116	9 workers or less
10-29	9	9	3	2	3	5	4	4	4	2	4		5	3		1	2		7	2	2	1		72	10-29
30-49	1	1	3	2		3	4			1					1	2		1	1					20	30-49
50-99	2	1														1				1				5	50-99
										$\overline{}$								$\overline{}$		$\overline{}$					

100-299							1														1			2	100-299
300 workers or																									300 workers or
more																									more
total	21	23	14	10	9	14	13	13	8	10	8	6	9	4	3	10	5	2	14	4	8	5	2	215	total

Month of fatal accidents in land consolidation civil engineering work in 1999-2021

Month	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	total	Month
January	1	3		1		2	1	1						1		1			4		1	1		17	January
February	2	1		1	2				2	1	2			1		1			2		1	1		17	February
March	1	1	2	1	1		1	1		1	2	1	8			1	1			1	2			25	March
April	3	2	2	1	1	2	3	3								1						2		20	April
May	3	1	2	1	1	1		1	2	1					3		1						1	18	May
June		2	1				1	1	2					1		1			2	1	1			13	June
July	1	3	3		1	2		3		1	1			1			1		3	1				21	July
August	6	1	1	2		1				2	1					2			1		1			18	August
September		3				1	1	1	2	2	2	1						1				1		15	September
October	1	1		2	2	1		1		1		3				1	1		2		1			17	October
November		4	1		1	4	5					1	1			1	1	1		1	1		1	23	November
December	3	1	2	1			1	1		1						1								11	December
total	21	23	14	10	9	14	13	13	8	10	8	6	9	4	3	10	5	2	14	4	8	5	2	215	total

Prefecture	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	total	Prefecture
Hokkaido			1			1	4											1	2					9	Hokkaido
Aomori																									Aomori
lwate		1			1					1			6								1			10	lwate
Miyagi								1		1	1		2											5	Miyagi
Akita				1					1															2	Akita
Yamagata																		1						1	Yamagata
Fukushima			1				1									1								3	Fukushim
Ibaraki	1	1			1																1	1		5	Ibaraki
Tochigi						1		1																2	Tochigi
Gunma																									Gunma
Saitama					1	2		1		1							1							6	Saitama
Chiba		1	1	2	1	1		1	1	1	1	1		1	1		1		1			1		16	Chiba
Tokyo	2	1			1				1	1						1								7	Tokyo
Kanagawa		1	2			1		1	1		1	1									1			9	Kanagawa
Niigata	1	1										1												3	Niigata
Toyama																			2		1			3	Toyama
Ishikawa							1												1					2	Ishikawa
Fukui						1				1														2	Fukui
Yamanashi																									Yamanash
Nagano	2	2	1				1																	6	Nagano
Gifu	1	1	1	1								1				1	1							7	Gifu

Shizuoka	1		1					2			1		1	1	1			2				10	Shizuoka
Aichi	1		2				1	1		1					1	1			1			9	Aichi
Mie				2		1			1							1						5	Mie
Shiga		1		1																		2	Shiga
Kyoto		1								1							3					5	Kyoto
Osaka		4															2			1		7	Osaka
Hyogo	2	4		1		1	1	2					1					1	1	1		15	Hyogo
Nara	1	1																				2	Nara
Wakayama				1		1																2	Wakayama
Tottori																							Tottori
Shimane	1		2										1									4	Shimane
Okayama	1	1				1		1						1								5	Okayama
Hiroshima	1					1	1		1								1	1				6	Hiroshima
Yamaguchi	1				1																	2	Yamaguchi
Tokushima											1				1							2	Tokushima
Kagawa																	1					1	Kagawa
Ehime	1		1																1			3	Ehime
Kochi	1					1			1		1										1	5	Kochi
Fukuoka	1				2		1	1				1			1				1			8	Fukuoka
Saga										1												1	Saga
Nagasaki					1	1	1				2											5	Nagasaki
Kumamoto	1	1					1	1							1							5	Kumamoto
Oita	1		1							1							1					4	Oita

Miyazaki									1							1							1	3	Miyazaki
Kagoshima																1						1		2	Kagoshima
Okinawa		1		1								1	1											4	Okinawa
total	21	23	14	10	9	14	13	13	8	10	8	6	9	4	3	10	5	2	14	4	8	5	2	215	total

Data sources: https://anzeninfo.mhlw.go.jp/user/anzen/tok/anst00.htm (MHLW, Japan)

Return to https://www.jisha.or.jp/english/statistics/2021e industry.html