

Costal Residents' Views on
Fukushima Daiichi
Nuclear Power Plant's
ALPS-treated Water Release
into the Pacific Ocean

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Background

Rainwater, groundwater,
and cooling water

Multi-nuclide removal facility
(ALPS* etc)

Storage tanks

Water is treated until the levels of contained radioactive substances
meet regulatory standards, with the exception of tritium

Approx.: 1.32 million
tonnes in 1046 tanks

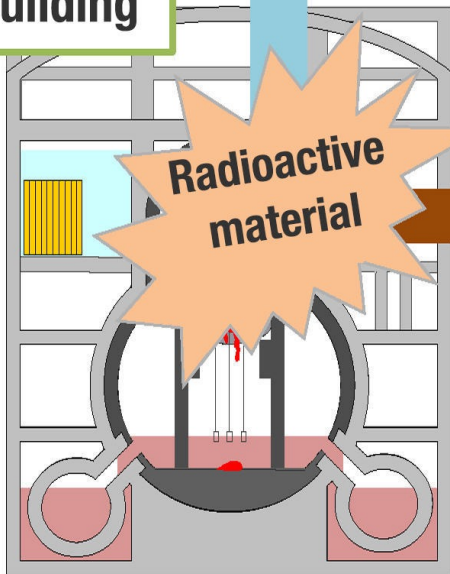
Reactor
building

Radioactive
material

Contaminated
water

Treated water

*ALPS = Advanced Liquid Processing System



Tank types (Standard)

Immediately following the earthquake



Blue tank

Pre-fabricated tanks were used.
Tank capacity: 100m³ class



Flanged tank

Tanks that are bolted together thereby
enabling quick construction.
Tank capacity: 1,000m³ class



Currently in use

Welded tank

The risk of leakage is reduced.
Tank capacity: 1,000m³ class

Approved

National government

TEPCO

IAEA

Opposed

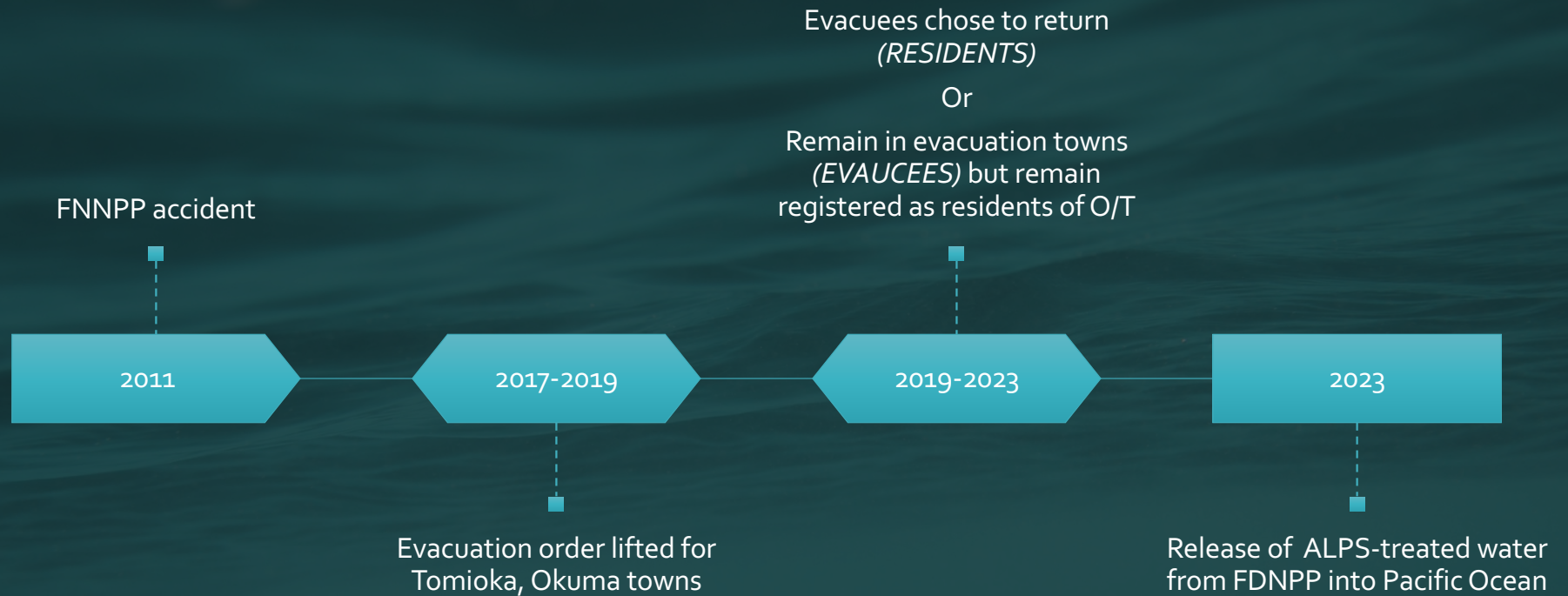
Local residents

Local fisheries

Neighbouring countries

Environmental non-governmental
organisation

Timeline



Aims of study

- Highlight thoughts of Tomioka, Okuma residents regarding release
 - Key challenges
- Inclusive decision-making
- “Culture of radiological protection”

Methods

Conducted in
Okuma and
Tomioka towns
in November
and December
2022

Participants :
current residents
and current
evacuees
registered with the
Okuma/Tomioka
town councils as of
November 2022,
≥20 years

Questionnaire

Questions:
demographics,
ITR, radiation risk
perception,
thoughts/concerns
about release
plans, health
status

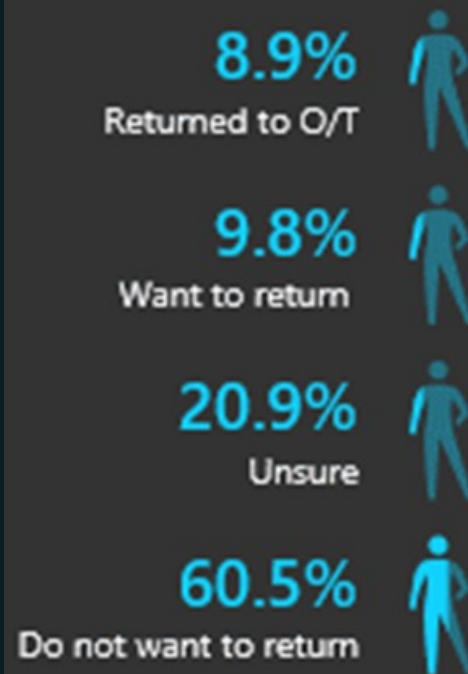
Statistical
analysis: χ^2 test,
multinomial
regression

Results

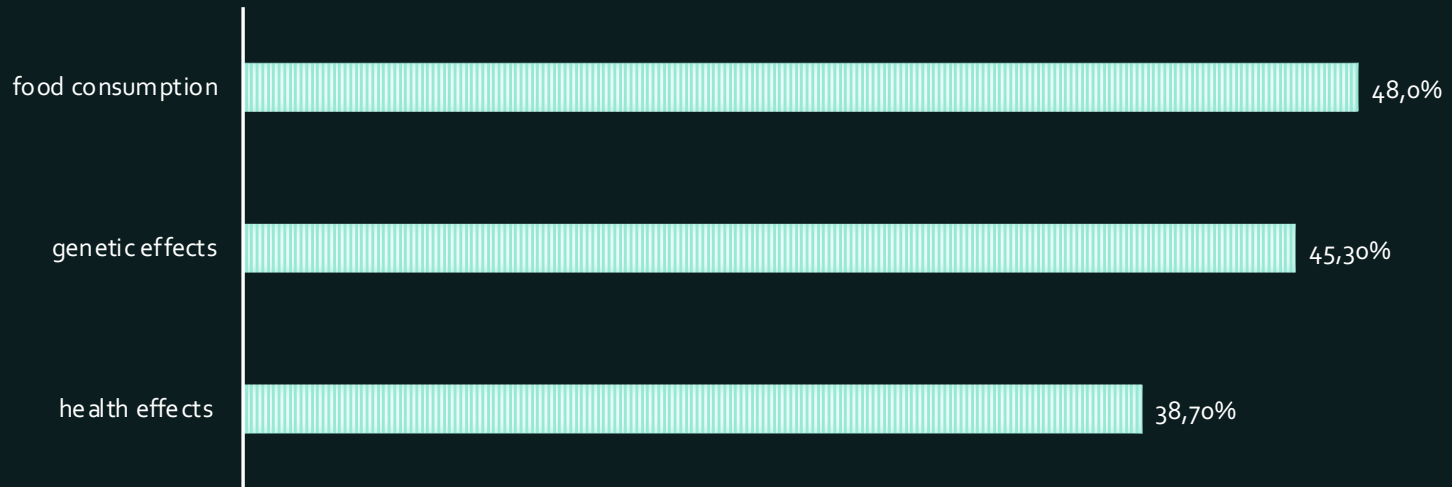
RESPONDER CHARACTERISTICS



ITR

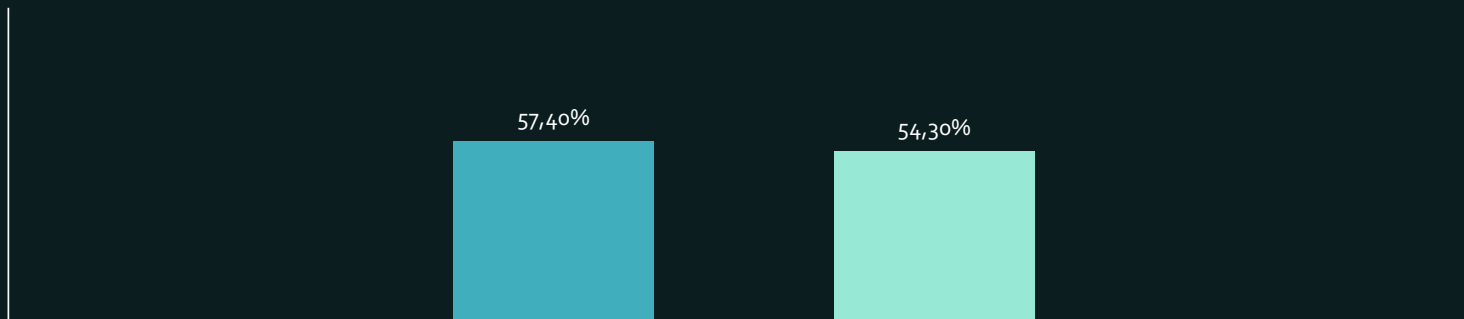


RISK PERCEPTION



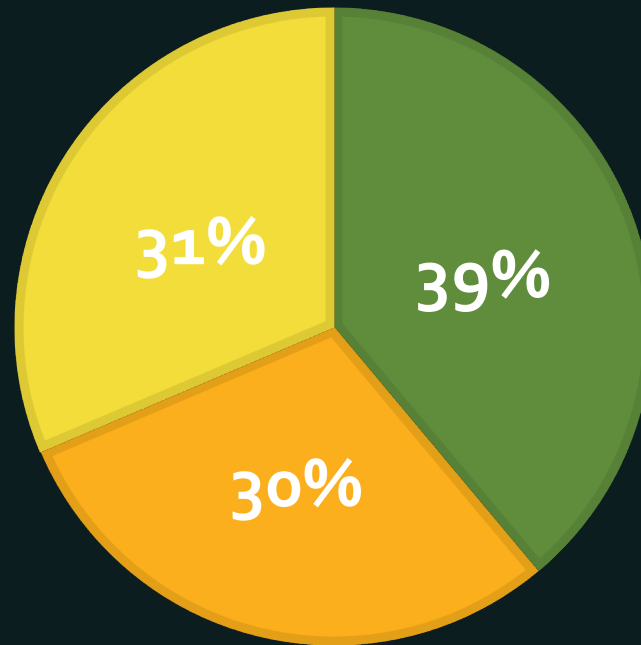
POOR HEALTH

■ PCS <50 ■ MCS <50

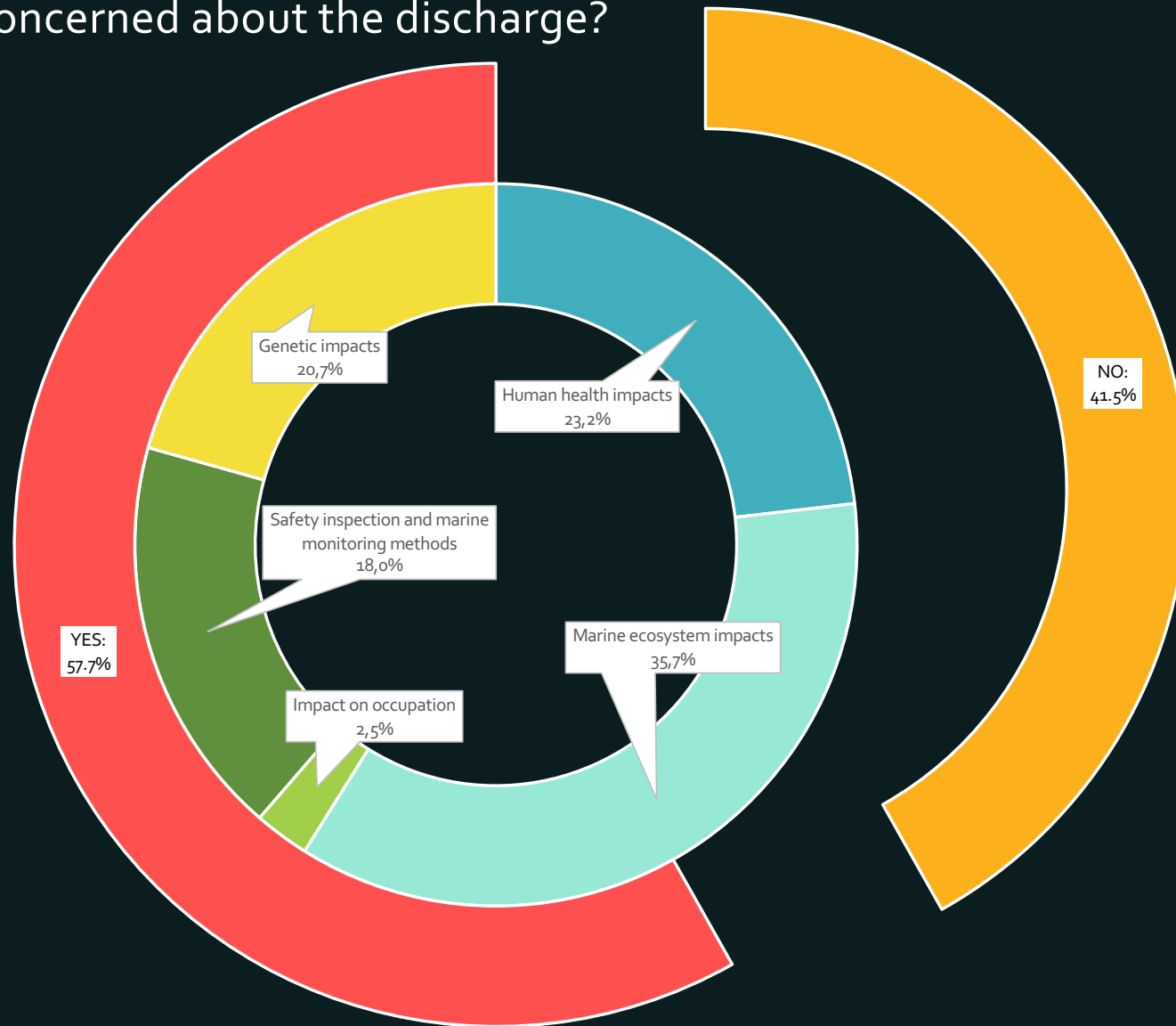


HOW DO YOU FEEL ABOUT THE DISCHARGE PLANS?

■ I accept ■ I do not accept ■ Unsure



Are you concerned about the discharge?



Multinomial regression analysis

Group ¹	Variable	Reference	Odds Ratio	Lower 95% CI	Upper 95% CI	p-value
Not accepting	Sex	Female	1.693	1.253	2.289	<0.001
	Occupation	Unemployed	1.507	1.089	2.085	0.013
	Risk perception (genetic effects)	Yes	7.277	5.333	9.928	<0.001
	PCS	<50	1.125	0.823	1.537	0.460
	MCS	<50	1.751	1.291	2.373	<0.001
Unsure	Sex	Female	2.324	1.757	3.074	<0.001
	Occupation	Unemployed	1.184	0.882	1.589	0.260
	Risk perception (genetic effects)	Yes	1.919	1.433	2.570	<0.001
	PCS	<50	1.172	0.879	1.563	0.279
	MCS	<50	1.704	1.287	2.256	<0.001

¹ Reference group: Acceptance

Discussion

- Acceptance tied to risk perception and mental health
- Setback in town recovery
- Need for 2-way dialogue

Conclusion

Thank you for your time!

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