

多世代参加型ストックマネジメント手法の普及を通じた地方自治体での持続可能性の確保  
ー未来カルテを用いた未来ワークショップの取り組みー

the Future Mayor Workshop using the Future Chart  
The Open Project on Stock Sustainability Management (OPoSSuM)

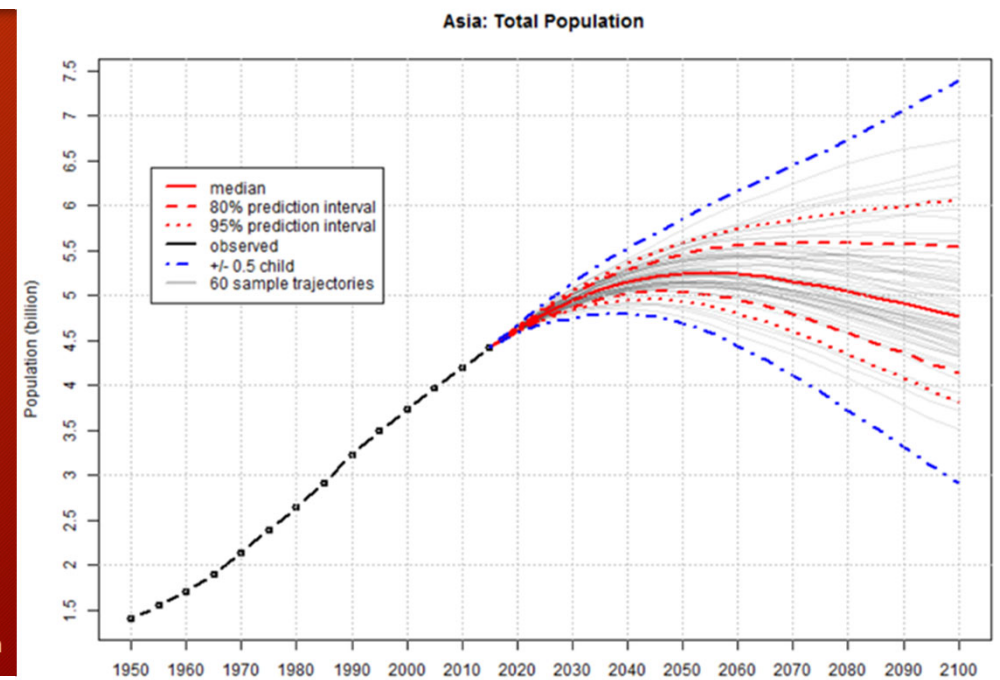
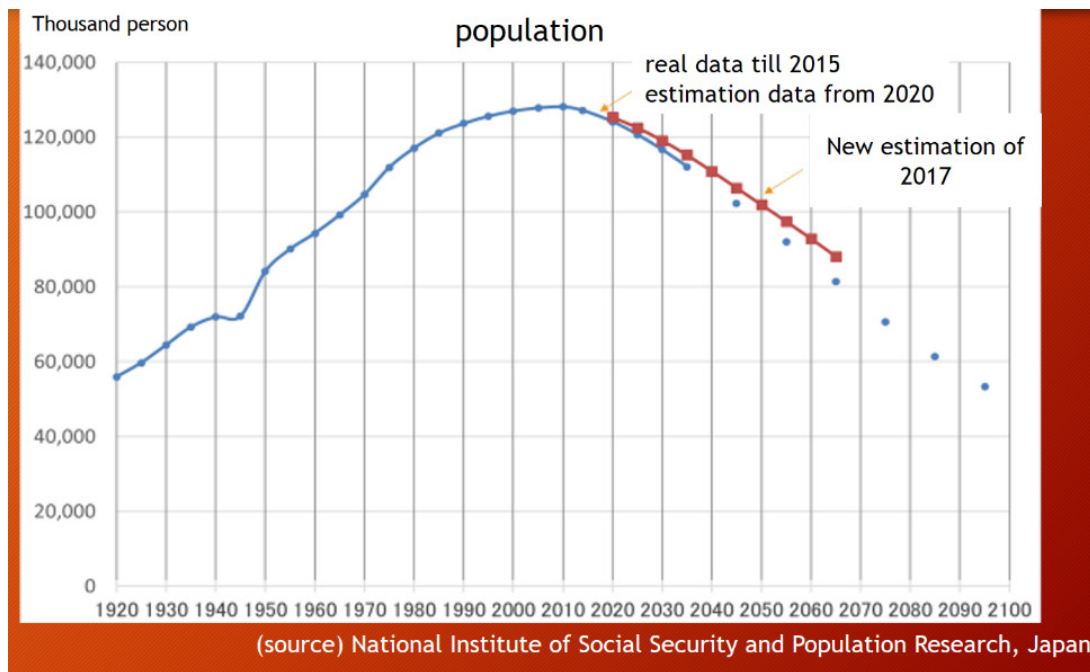
---

千葉大学大学院教授 倉阪秀史

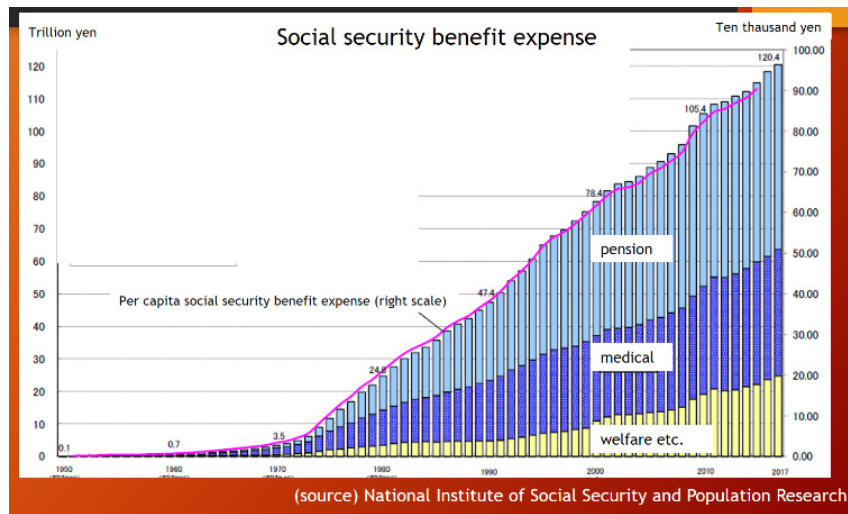
PROFESSOR, CHIBA UNIVERSITY HIDEFUMI KURASAKA

# Population decreasing society – Japan

人口減少社会 日本

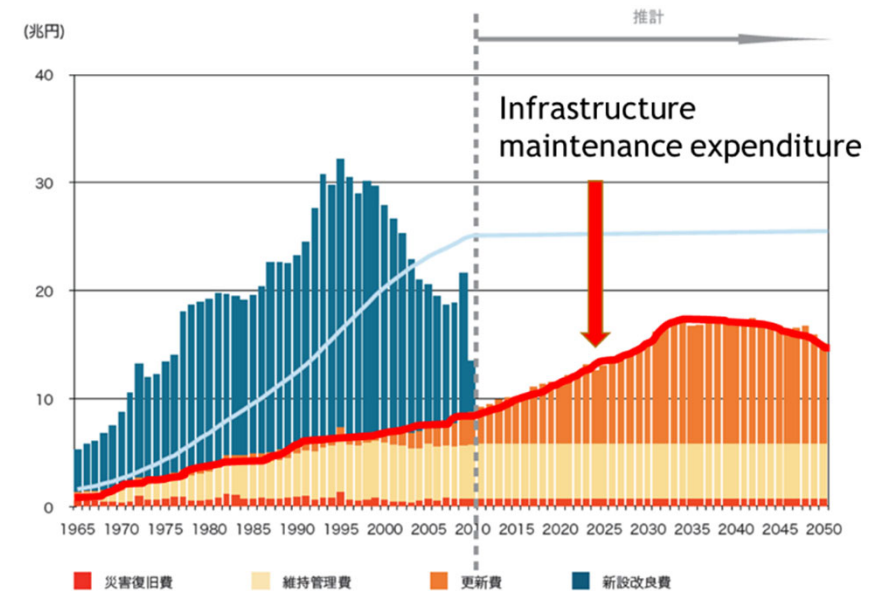


(source) United Nations Population Division World Population Prospects 2017 <https://esa.un.org/unpd/wpp/Graphs>



Care Work for  
Human Capital

人的資本基盤  
のケア労働

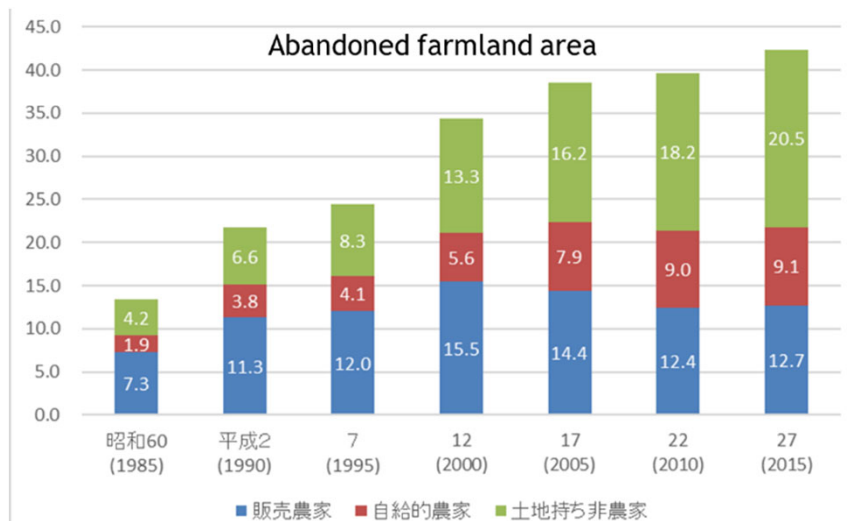


Care Work for  
Natural Capital

自然資本基盤  
のケア労働

Care Work for  
Artificial Capital

人工資本基盤の  
ケア労働



(source) Agriculture and forestry census

The lack of supply of care works threatens  
the sustainability of population declining  
societies.

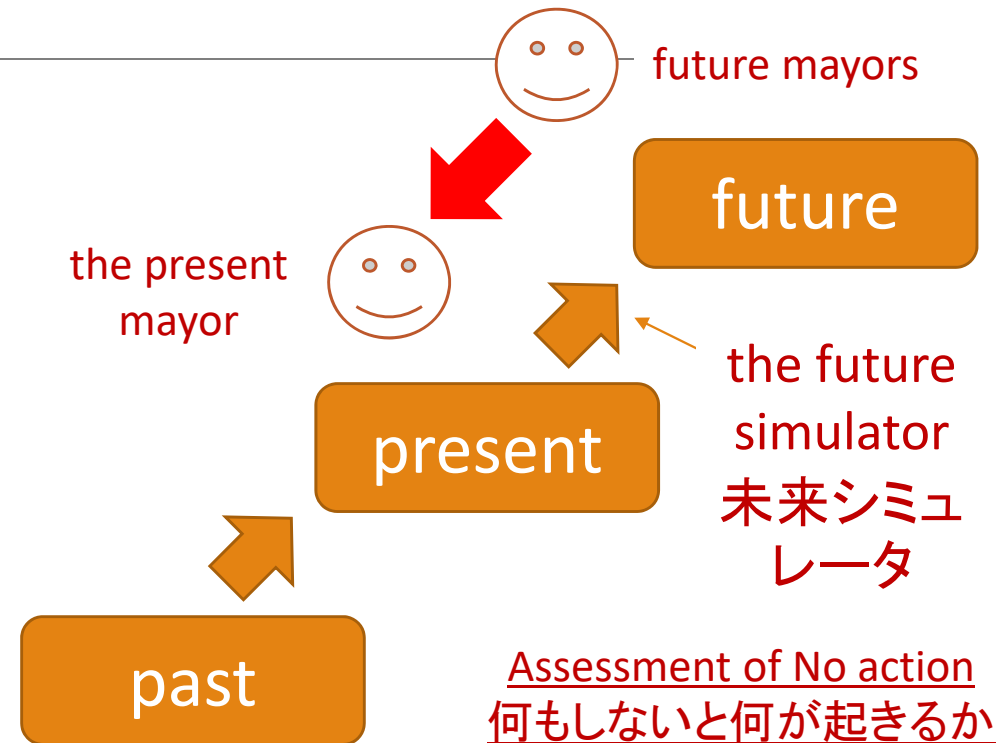
人口減少社会ではケア労働不足が持続可  
能性を脅かしている

# the Future Mayor Workshop 未来ワークショップ

A workshop to inform junior and senior high school students or young adults who are responsible for the future of the region about what can happen in 2040 if the current trend continues, and to let them think about policy recommendations as the future mayors in 2040

中高生などその地域の将来を担う若い世代に、このまま現状の傾向が続けば、どのような社会が実現するか(資本基盤のケア労働が確保できるか)を伝え、2040年の未来市長になって、今の市長に政策提言を行うワークショップ

back casting approach  
バックキャストイング





We are developing **future simulators** in order to identify challenges to community stock in 25 years' time.

**Future  
simulators**

## Assessment of No Action

Industrial  
structure  
simulator

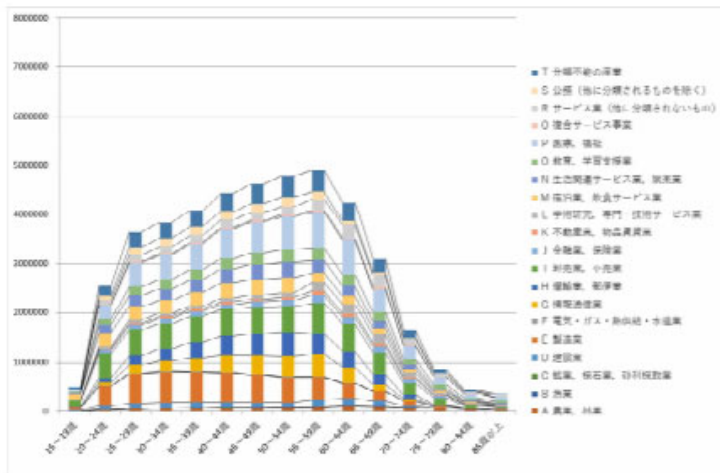
The number of people in work by  
industry, 2040 (Japan)

84.7%  
(2040/2015)

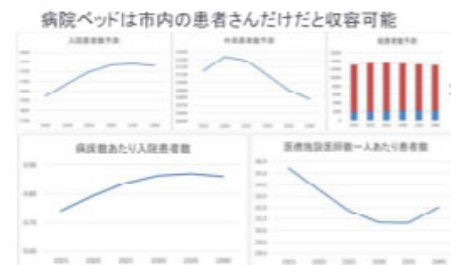
Population  
107,275,850

78.2%  
(2040/2015)

Employed people  
44,897,751

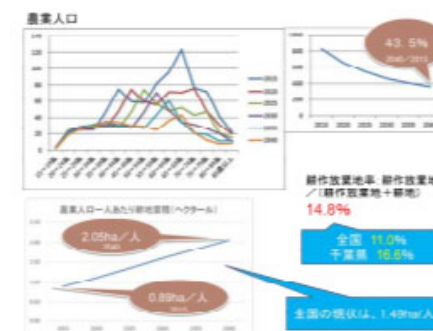


Human capital  
simulator



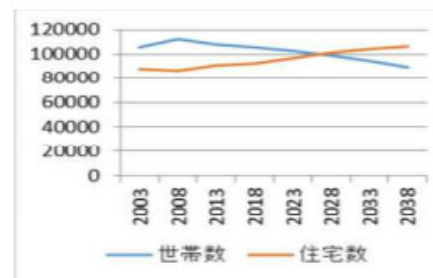
ちなみに、全国(2015年)の  
病院ベッドが数あり人数比率は 0.307人  
医師1人あたり患者数 32.3人

Natural capital  
simulator



Housing  
simulator

The number of households and houses (Ichihara City)



Finance  
simulator

structure of the future simulator  
未来シミュレータの構造

Forecasts on working  
population ratio per industries  
産業別就業者人口比率の予測

Forecasts on population  
人口予測

Forecasts on Natural  
and Artificial Capital  
Bases (farmland, forest,  
buildings)  
自然資本／人工資本  
量予測

Forecasts on working  
population per industries  
産業別就業者人口予測

Forecasts on working  
population  
就業者人口予測

Forecasts on working  
population for care works  
ケア労働就業者人口予測

Forecasts on population subject to  
care works for human capital  
bases(child care, education, nursing,  
medical care)  
ケア労働が必要な人口予測(保育、教  
育、介護、医療対象)

Forecasts on care  
needs for natural and  
artificial capital bases  
自然資本／人工資本  
のケア労働量予測

ケア労働供給量  
Supply of care works

ケア労働需要量  
Demand of care works



# Future Chart of Kimitsu-shi

## 君津市未来カルテ

Kimitsu City

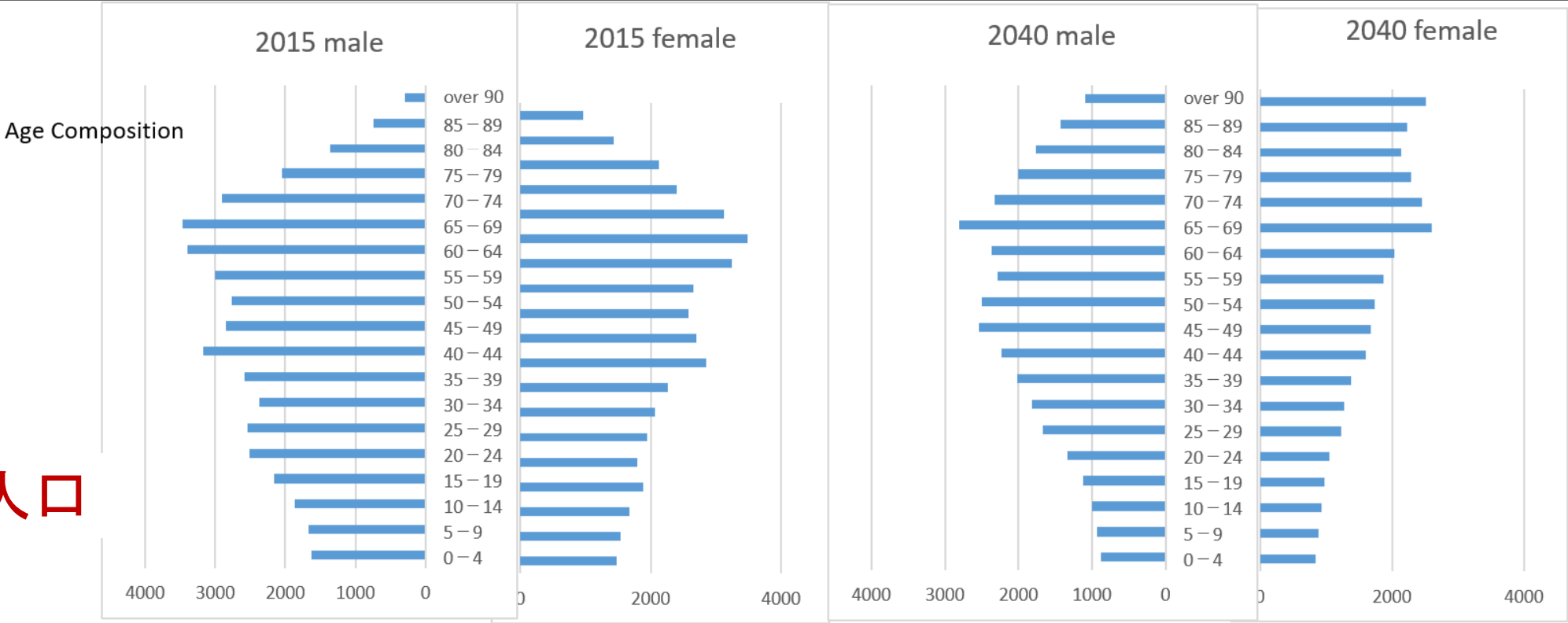
全自治体の未来カルテを発行できるプログラムを無料公開  
We can provide with future chart for each municipality in Japan.  
You can download from <http://opossum.jpn.org/> for free.



This sheet shows a series of simulated results in industries, childcare, education, medical services, and nursing with current trends compared to 2040 using the population predicted by the National Institute of Population and Social Security Research as the basis. These results will change if the current trends can be changed by policies.

Kimitsu-shi

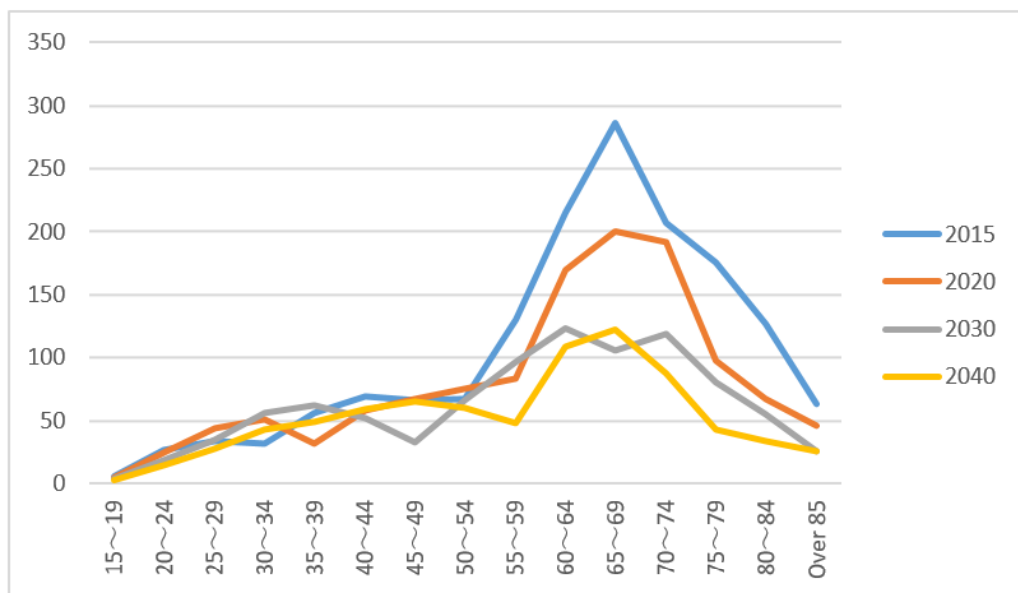
12225	Kimitsu-shi			Chiba-ken			National (10,000 people)		
	2015	2040	2040／2015	2015	2040	2040／2015	2015	2040	2040／2015
Total Population	86033	65807	76.5%	6222666	5358191	86.1%	12709	11092	87.3%
Ratio of youth population (0-14)	11.4%	8.3%	55.6%	12.2%	9.8%	68.7%	12.5%	10.8%	75.4%
Ratio of working-age population (15-64)	59.7%	52.7%	67.6%	60.7%	53.7%	76.1%	60.0%	53.9%	78.4%
Ratio of population over 65	28.3%	39.0%	105.3%	25.5%	36.5%	123.5%	26.3%	35.3%	117.0%
Ratio of population over 75	13.2%	23.5%	135.9%	11.2%	20.4%	157.4%	12.7%	20.2%	138.9%





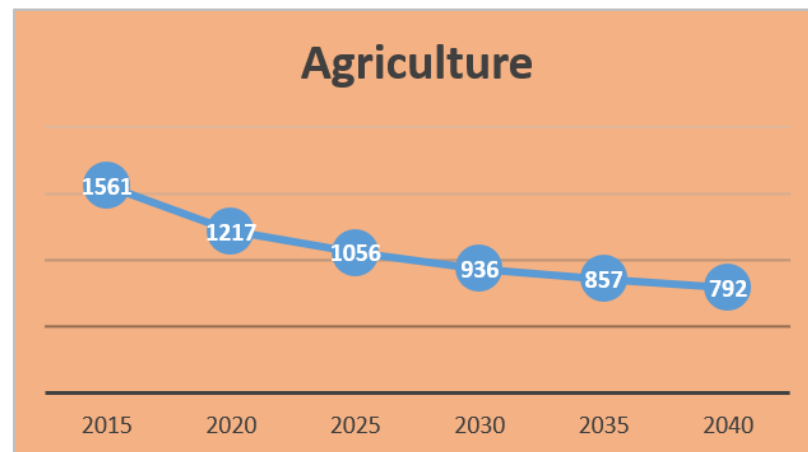
Kimitsu-shi

Population in agriculture 2040/2015 50.7%



Chiba-ken

42.8%

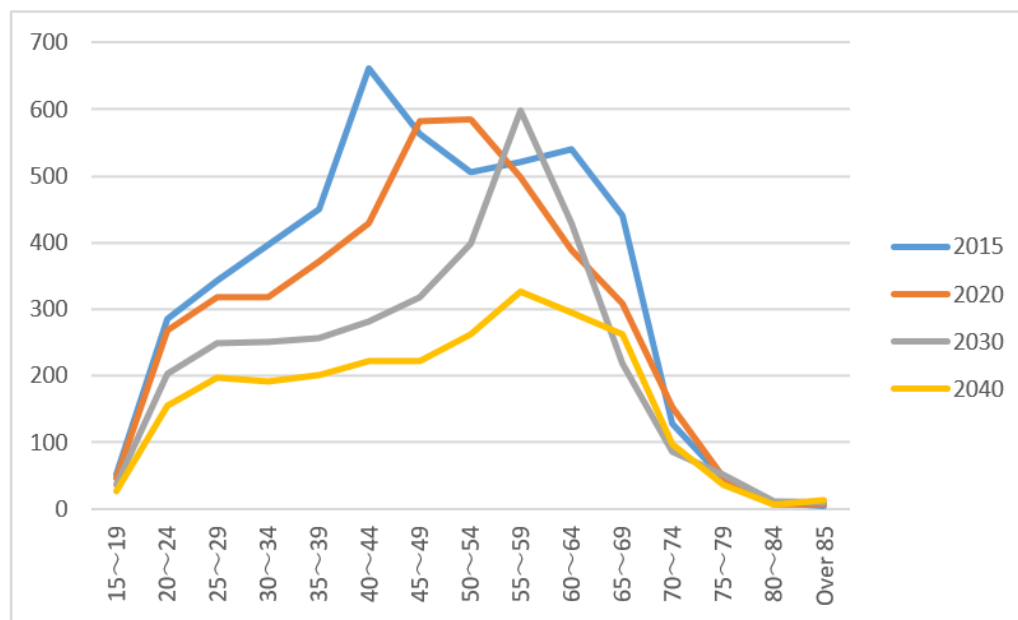


Population in construction

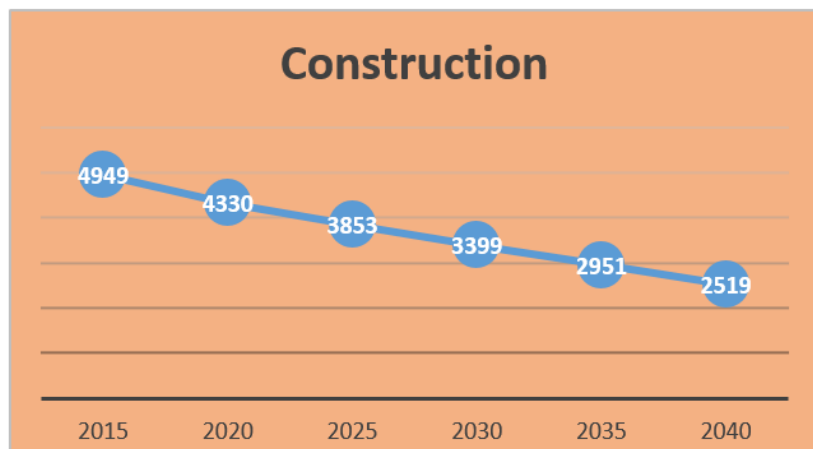
2040/2015

50.9% Chiba-ken

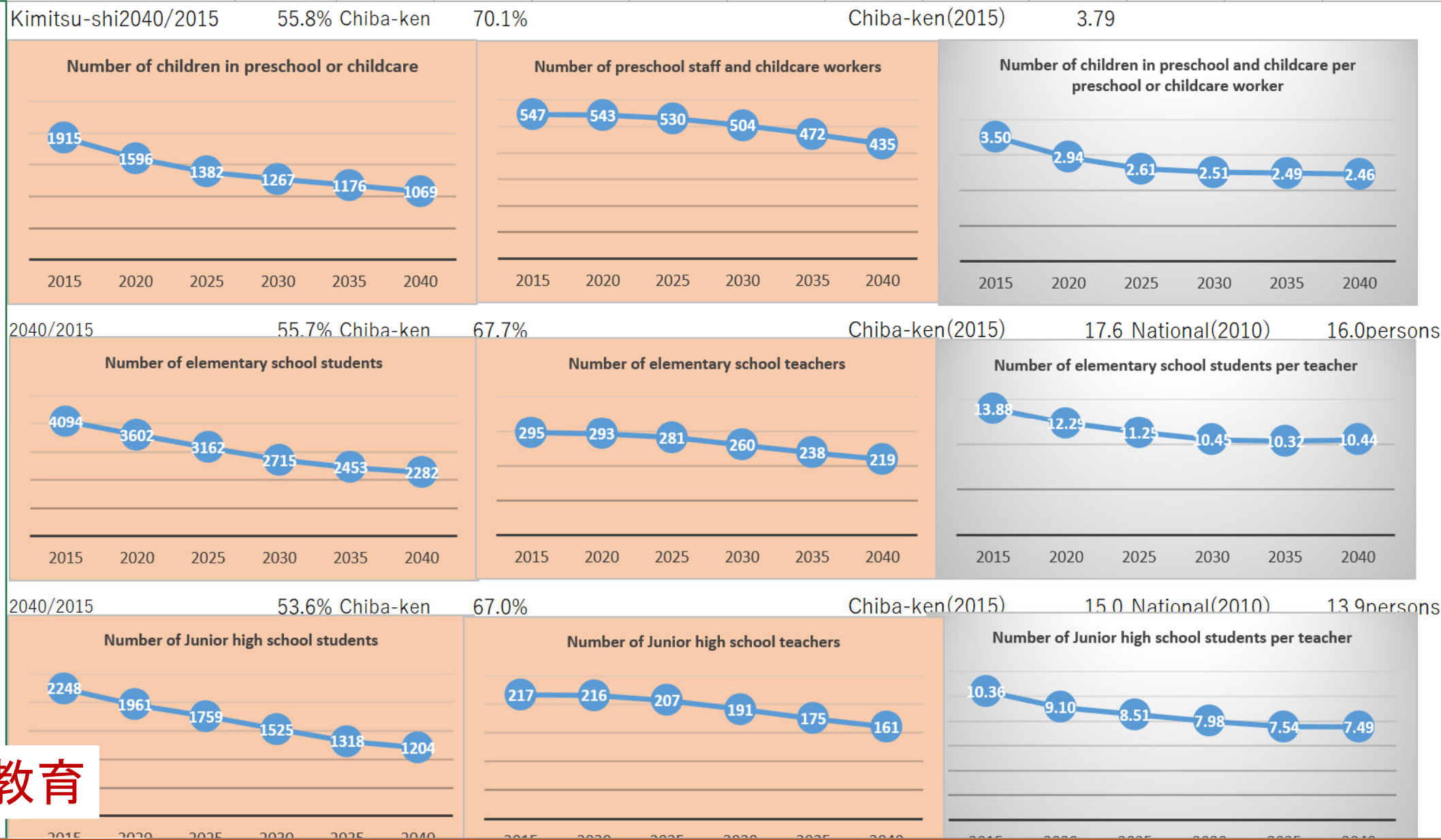
51.6%



## Construction



産業



Kimitsu-shi2040/2015

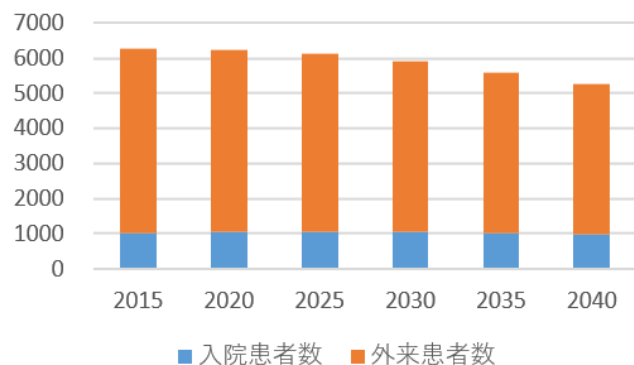
84.0% Chiba-ken

93.8%

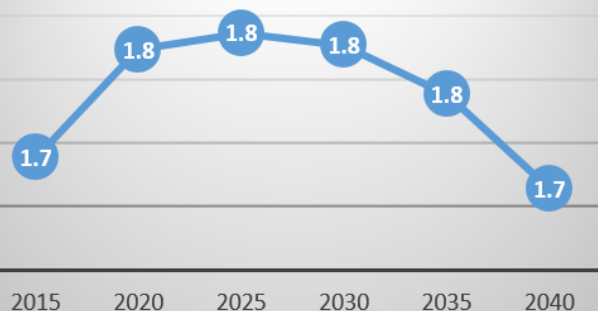
Chiba-ken(2015)

37.5 National(2010)

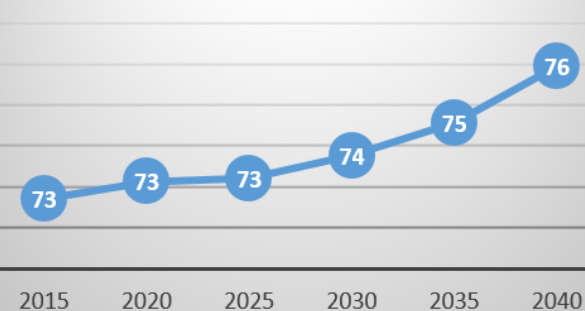
31.3persons



Number of hospitalized patients per hospital bed



Number of patients per doctor



2040/2015

166.4% Chiba-ken

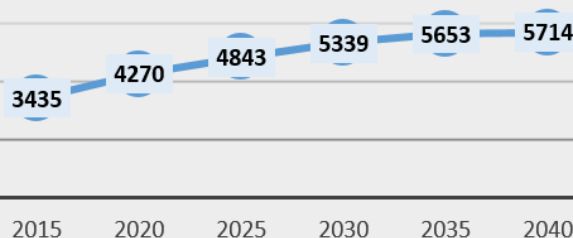
207.6%

Chiba-ken(2015)

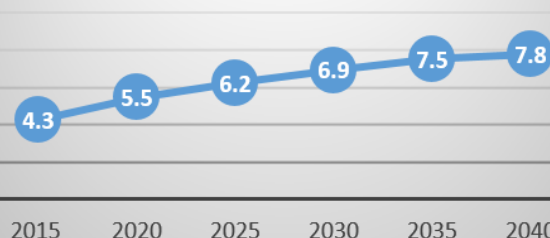
2.5 National(2010)

2.7persons

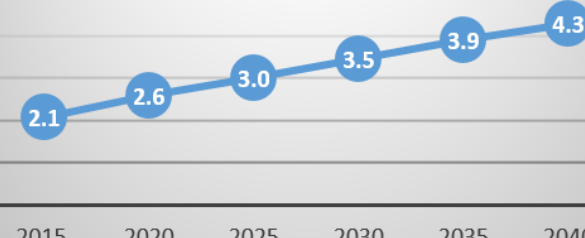
Number of individuals receiving nursing care



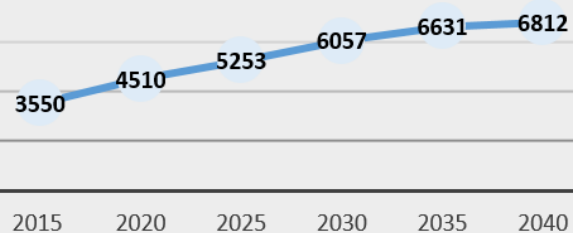
Number of nursed in need of level 3 nursing care or greater per total capacity of Special nursing home for the elderly



Number of nursed individuals per welfare care service worker



Number of dementia patients



2040/2015

191.9% Chiba-ken

231.5%

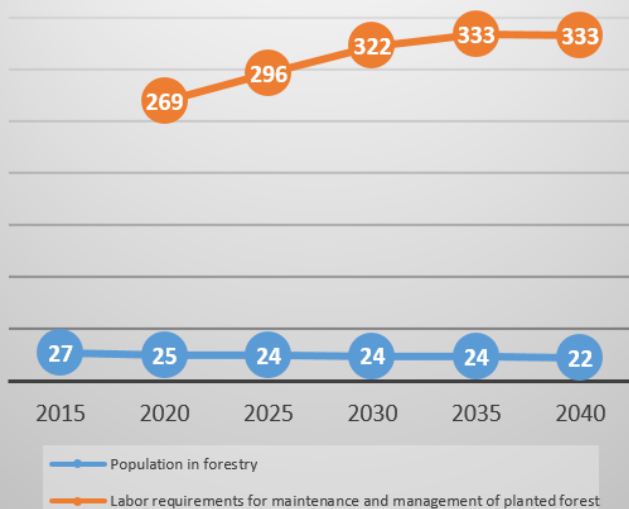
医療・介護



Kimitsu-shi	(2010)	(2015: actual results)	2015	2020	2025	2030	2035	2040
Forest/fields area within the city	20754 hectares	Population in forestry forecast	27	25	24	24	24	22
Proportion of national forest/fields area	0.082%	Labor required for maintenance and management of planted forest		269	296	322	333	333
Municipal rank of forest/fields area	412 place/1743 units	Sufficiency probability		9.2%	8.2%	7.4%	7.1%	6.5%

Labor requirements for maintenance and management of planted forest: Estimate based on planted forest of age 10 class (46 years) estimated to exist within the city, with cutting of 2% annually, followed tree plantings, to maintain the planted forest area, estimate the labor requirements (persons/year) for cutting and maintenance.

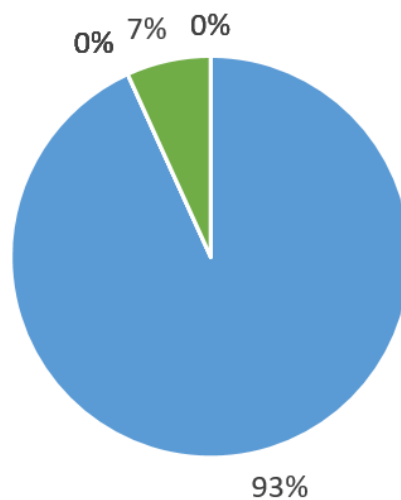
Forecast population in forestry, and the amount of labor required for maintenance management of planted forest area within the city



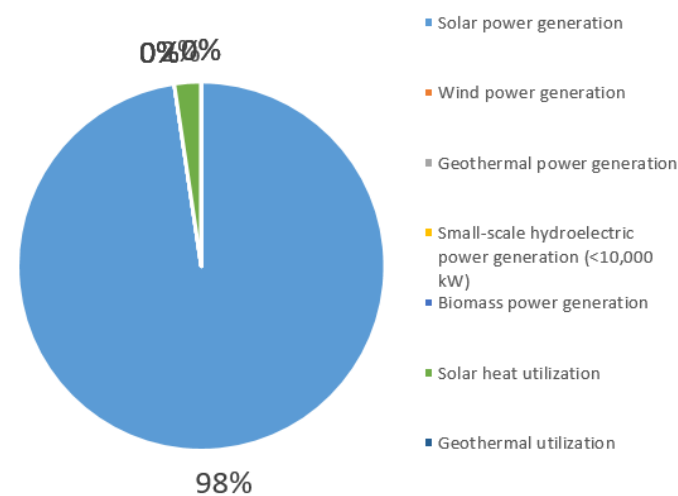
## 森林・再生可能エネルギー

(For renewable energy, see the next sheet)

Estimation and supply amount of renewable energy facilities as of end-March 2014



Estimation and supply amount of renewable energy facilities as of end-March 2016



# 未来ワークショップの開催場所 Future Mayor Workshop Held





# Yachiyo Future Mayor Workshop 八千代未来ワークショップ

Nov. 23, 2016 Yachiyo City, Chiba Pref.

Junior High School Students 11、High School Students 9



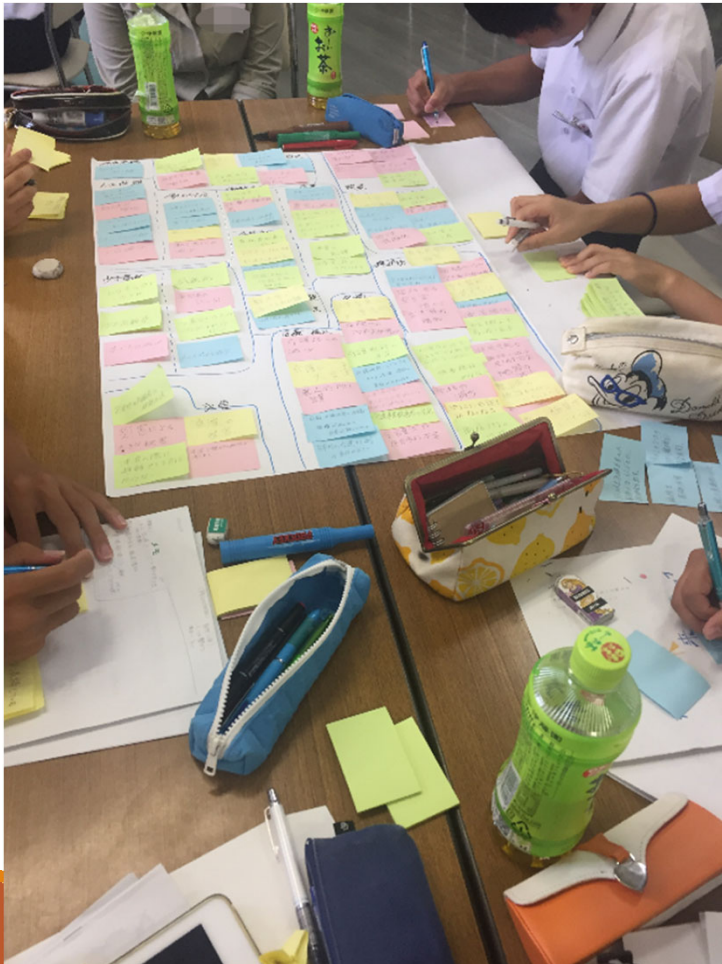
the present  
mayor



# Tateyama Future Mayor Workshop たてやま未来ワークショップ

Aug. 7, 2017, Tateyama City, Chiba Pref.

Junior High School Students 29、High School Students 14



the present  
mayor





# Nishinoomote Future Mayor Workshop

## にしのおもて未来ワークショップ

Aug. 29, 2018 Nishinoomote City,  
Kagoshima Pref.

Junior High School Students 15、High  
School Students 22

the pres  
mayor



# Nishinoomote Future Mayor Workshop にしのおもて 未来ワークショップ

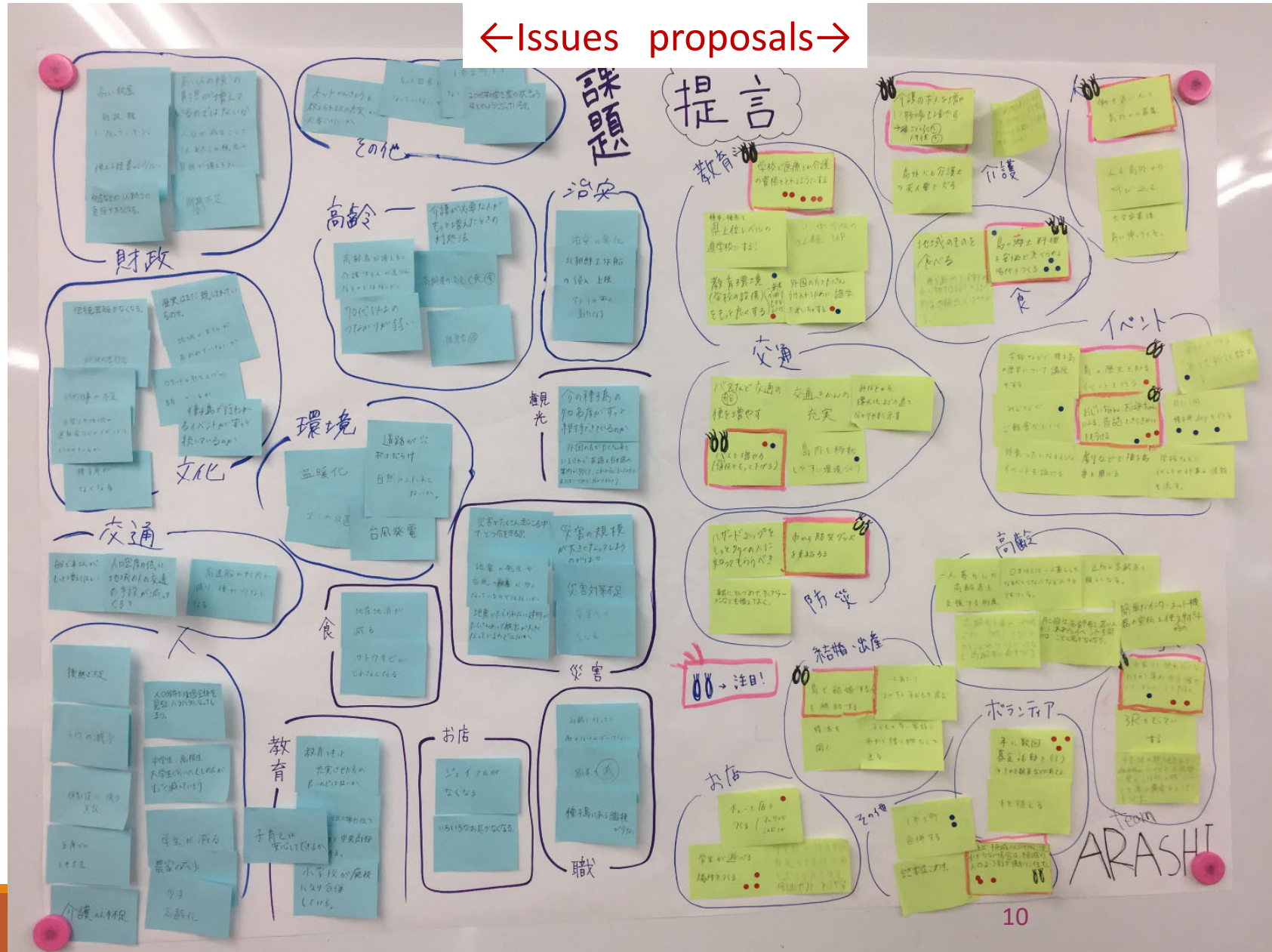
←Issues proposals→





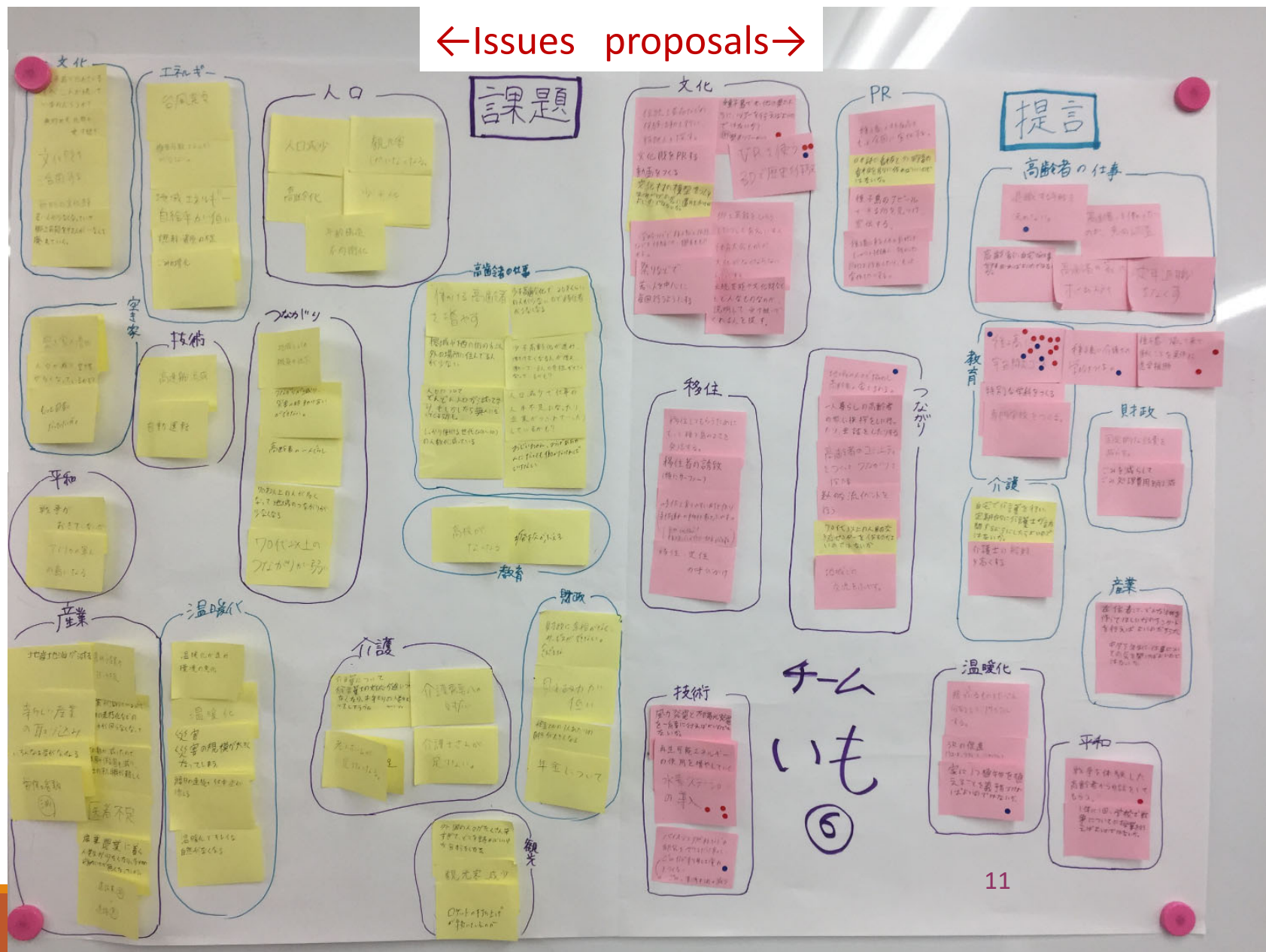
# Nishinoomote Future Mayor Workshop にしのおもて 未来ワーク ショップ

←Issues proposals→



# Nishinoomote Future Mayor Workshop にしのおもて 未来ワーク ショップ

←Issues proposals→



# The effect of the future workshop based on the participant questionnaire

## 未来ワークショップの効果

### Yachiyo Future Mayor Workshop

#### やちよ未来ワークショップ

Participating in the workshop made me think more like before  
未来ワークショップに参加したことで前よりもそうおもうようになった

- I want to contribute to this city この市に貢献したい 75%
- I want to know more about the issues of the city この市の課題をもっと知りたい 70%
- I can collaborate with people with different positions and opinions 意見や立場の異なる人と協働できる 65%
- I can change the current situation わたしは現状を変えられる 60%

### Tateyama Future Mayor Workshop

#### たてやま未来ワークショップ

- I want to contribute to this city この市に貢献したい 89%
- I like this city この市が好きだ 82%
- It is more effective to collaborate with others than to do it individually to solve city problems.  
個人より他人と協働した方が市の課題を効果的に解決できる 82%
- I want to know more about the issues of the city この市の課題をもっと知りたい 70%
- I can collaborate with people with different positions and opinions 意見や立場の異なる人と協働できる 70%

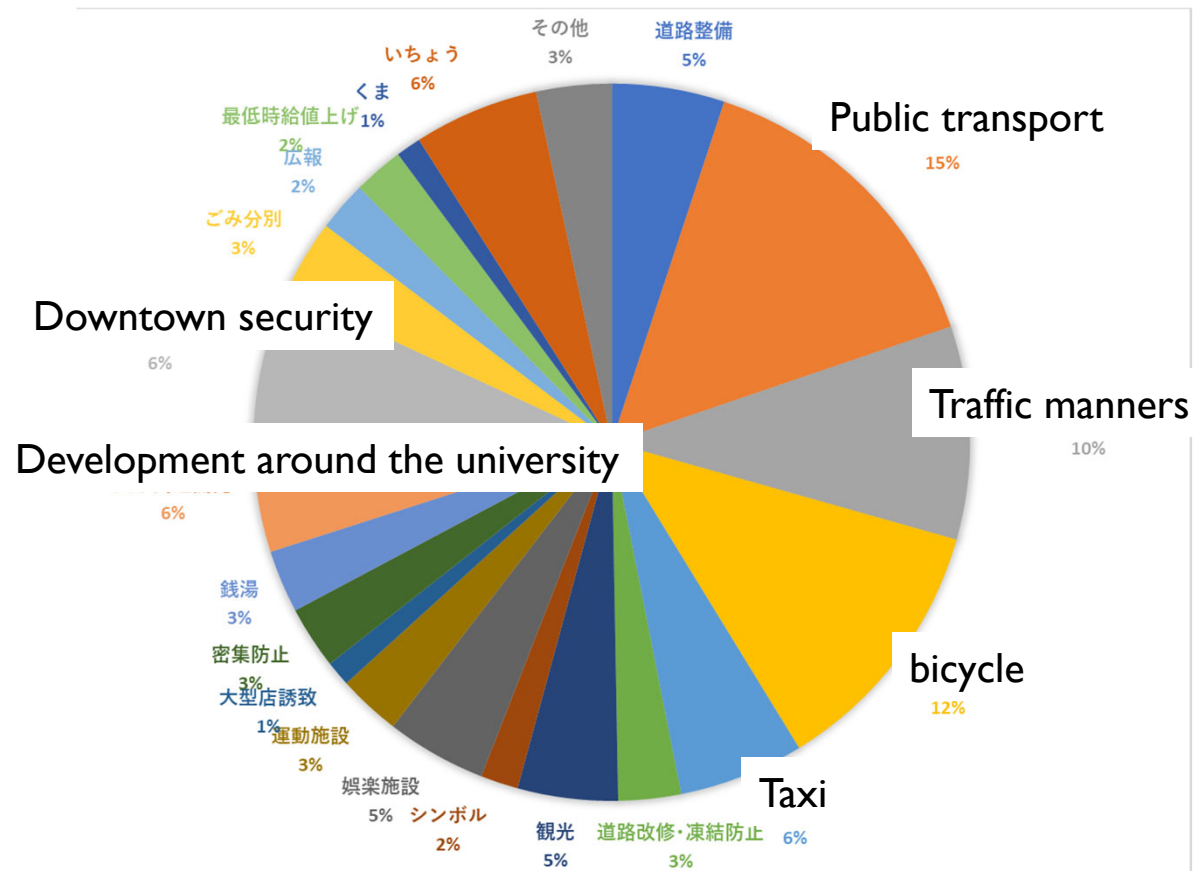


## 未来カルテ講義前の政策提言

### POLICY RECOMMENDATIONS

### BEFORE FUTURE CHART LECTURES

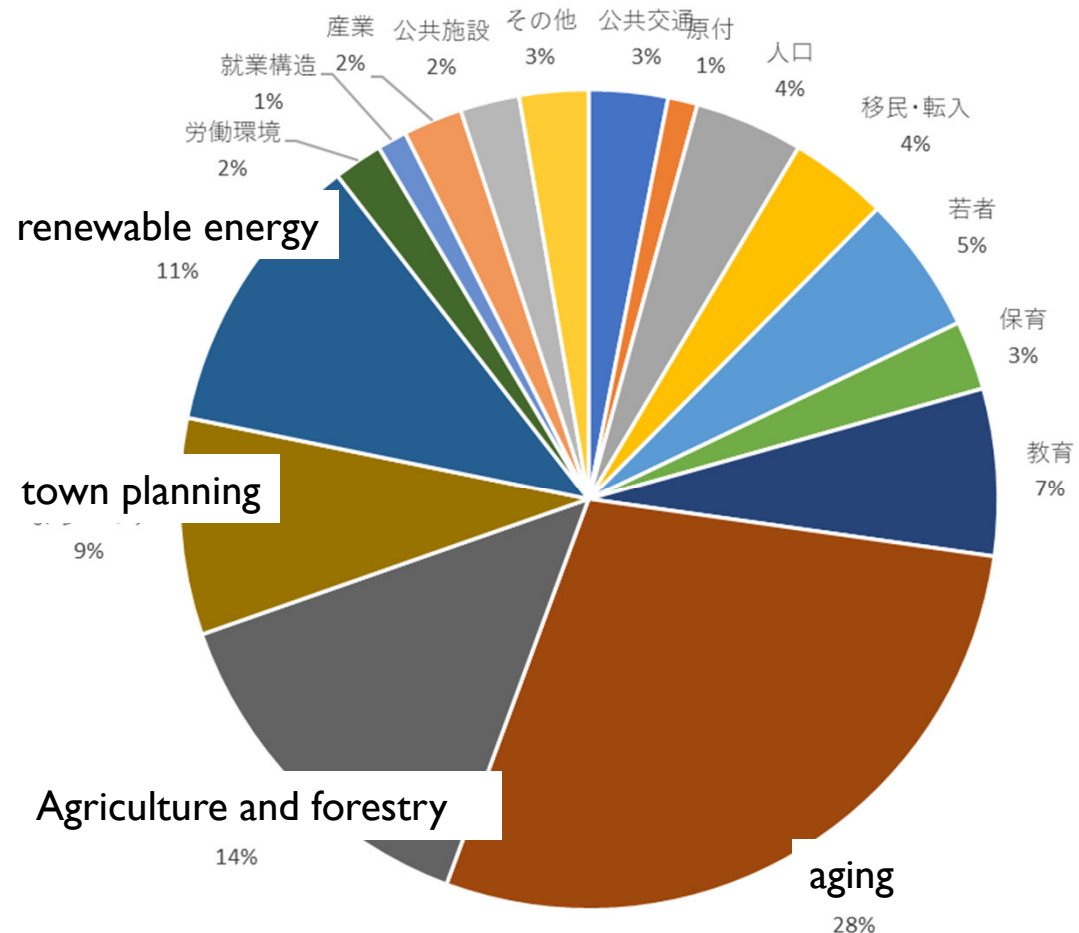
- 未来カルテ講義前は、身の回りの利便性向上に関する提言が中心
- Before the future chart lecture, their proposals are centered on proposals to improve the convenience of current areas of life.
- とくに交通関係が半分を占める
- In particular, about half of the proposals are for improving transportation convenience.



参加者41名 participants 41

## 未来カルテ講義後の政策提言 POLICY RECOMMENDATIONS AFTER FUTURE CHART LECTURES

- 未来カルテ講義後はさまざまな世代や産業について考慮した政策提言が増加
- After the future chart lecture, policy recommendations to think about the future and policy recommendations to think about various generations and industries increased.
- 交通に関する提言も、高齢者の交通利便性など、公共性を帯びたものになった。
- Proposals related to transportation have become more public, including those that are convenient for the elderly.



参加者41名 participants 41



## 未来ワークショップ the Future Mayor Workshop

- 若い世代の長期的・公共的な視野を培うことができる。
- It can nurture the younger generation with a long-term and public view.
- 「なにもしないと何が起こるか」を若い世代に伝えることが重要
- It is important to show the younger generation what will happen in the future of doing nothing.

未来カルテ the Future Chart

- 将来世代の立場から今の世代に提言する機会を、若い世代に与えることが必要
- And it is necessary to provide opportunities for the younger generations to speak toward the current generations from the standpoint of future generations.