



Farm Assets

Objectives

Limitations

1. Trend of farm asset ownership (1996 – 2016)
2. Ownership VS Actual use
3. Common factors between farmers with farm asset ownership
4. Possible opportunities from farm asset ownership

Farm Assets



Farm Assets

Rice Farm land

Draft Animals

Farm Machineries

Irrigation equipment/facility

Farm tools and Implements

Post harvest facility

Farm Assets

Rice Farm land

Draft Animals

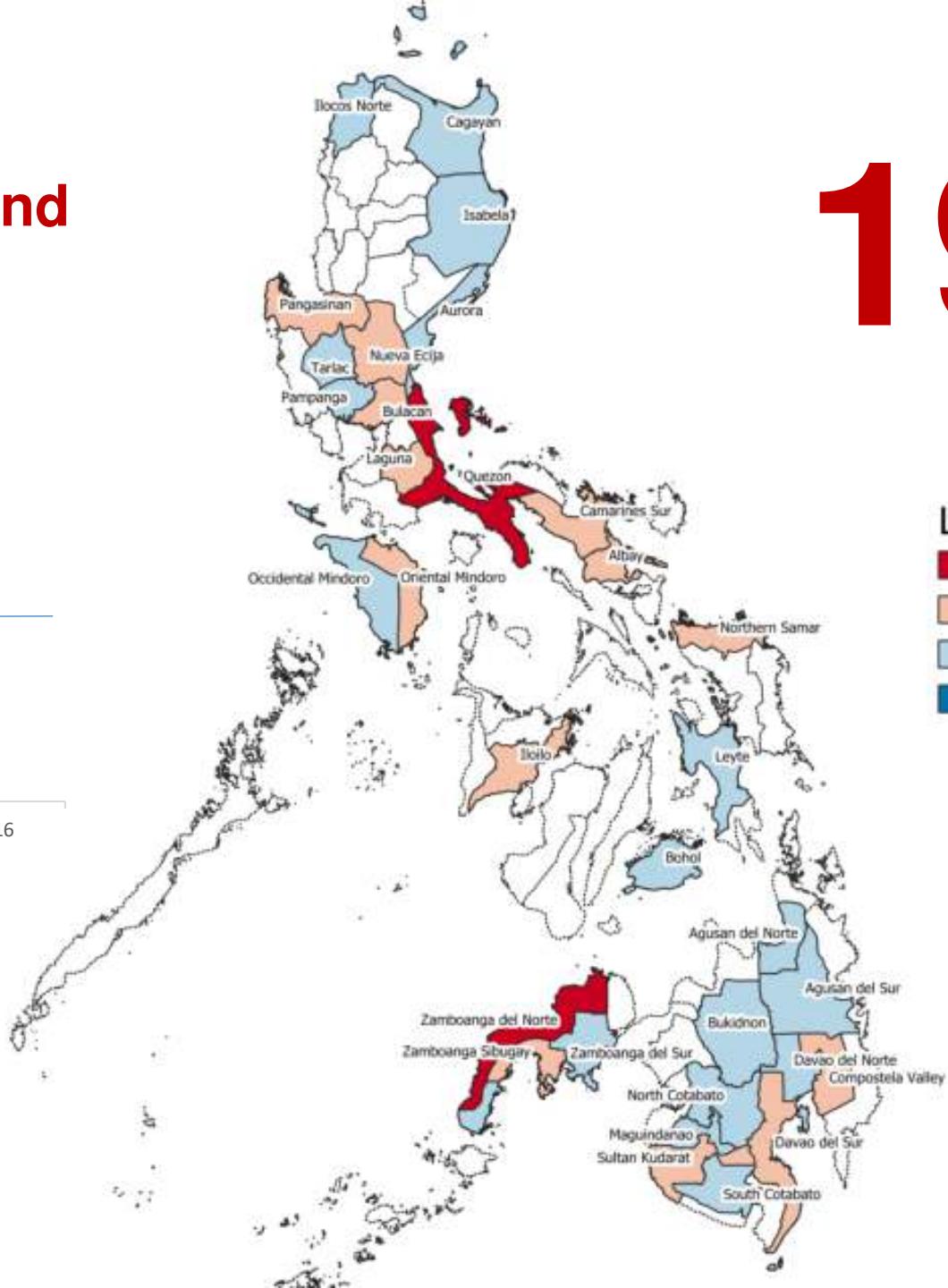
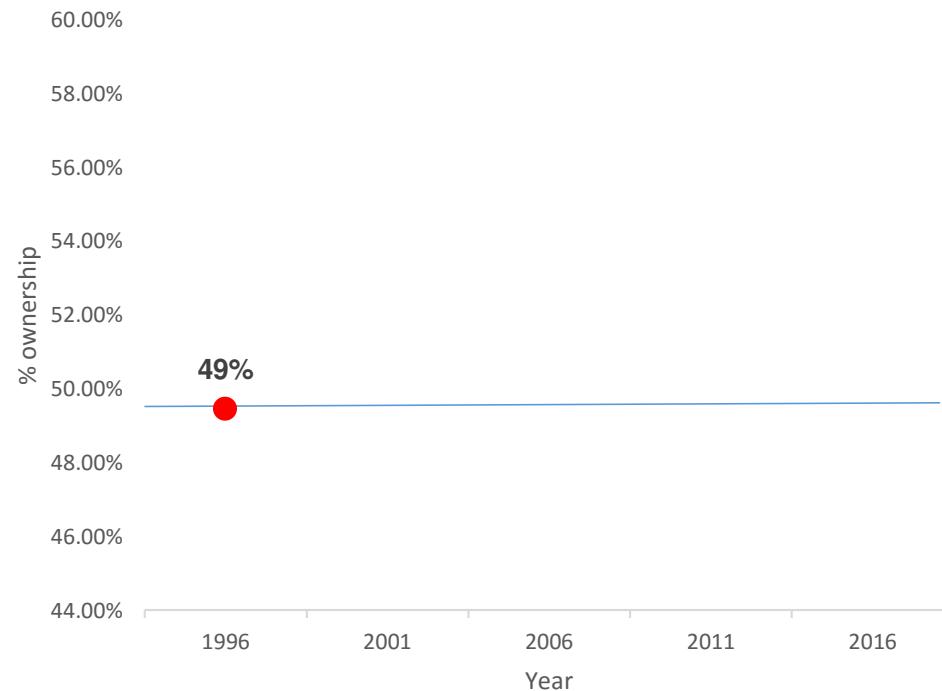
Farm Machineries

Irrigation equipment/facility

Farm tools and Implements

Post harvest facility

Ownership (%) of rice farm land

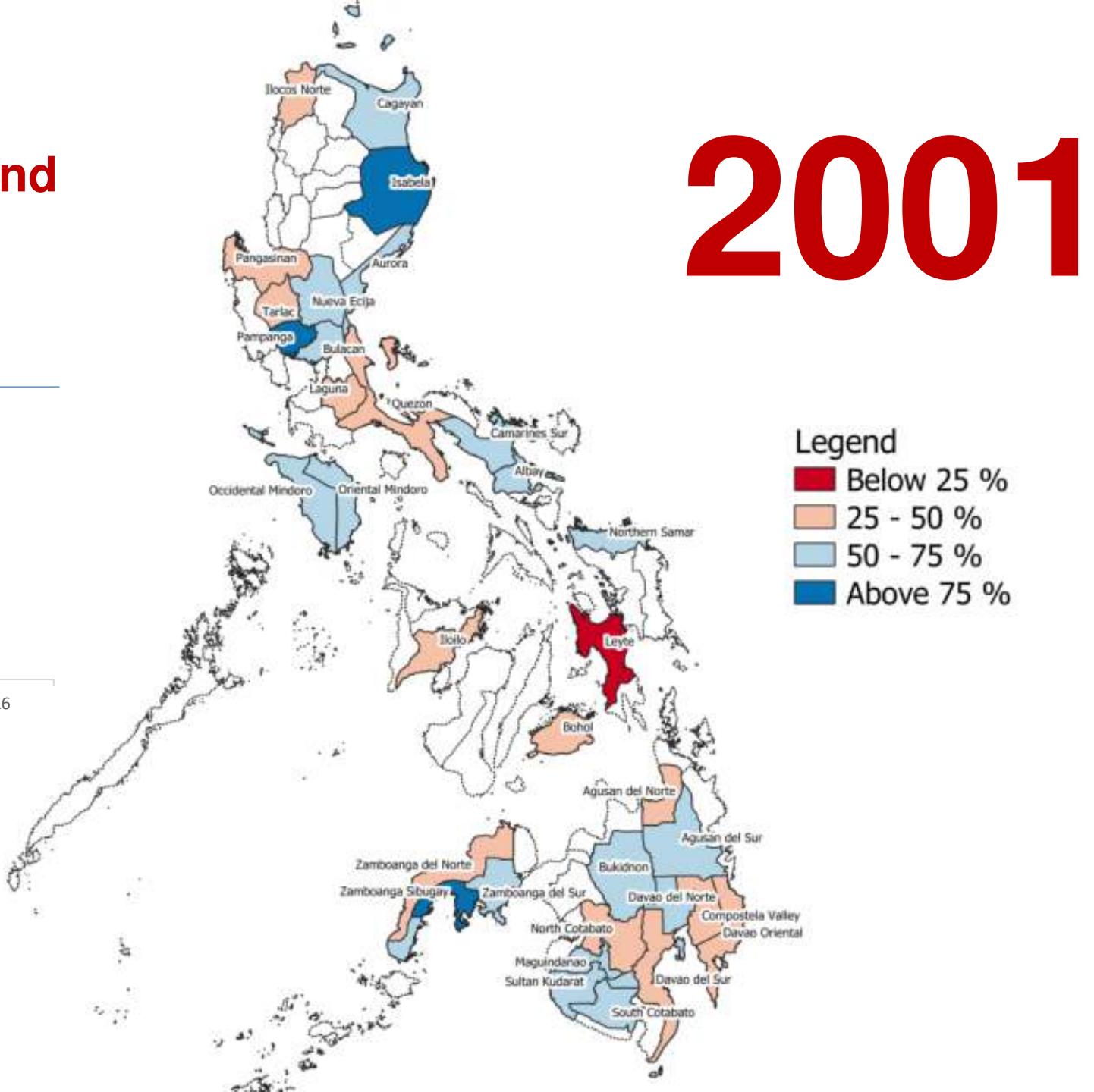
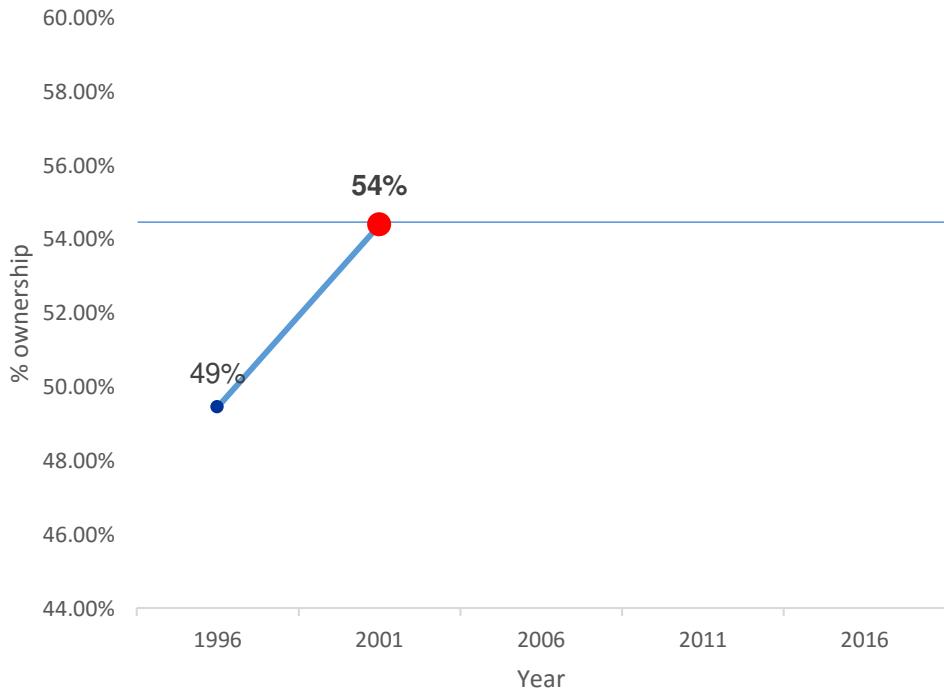


1996

Legend

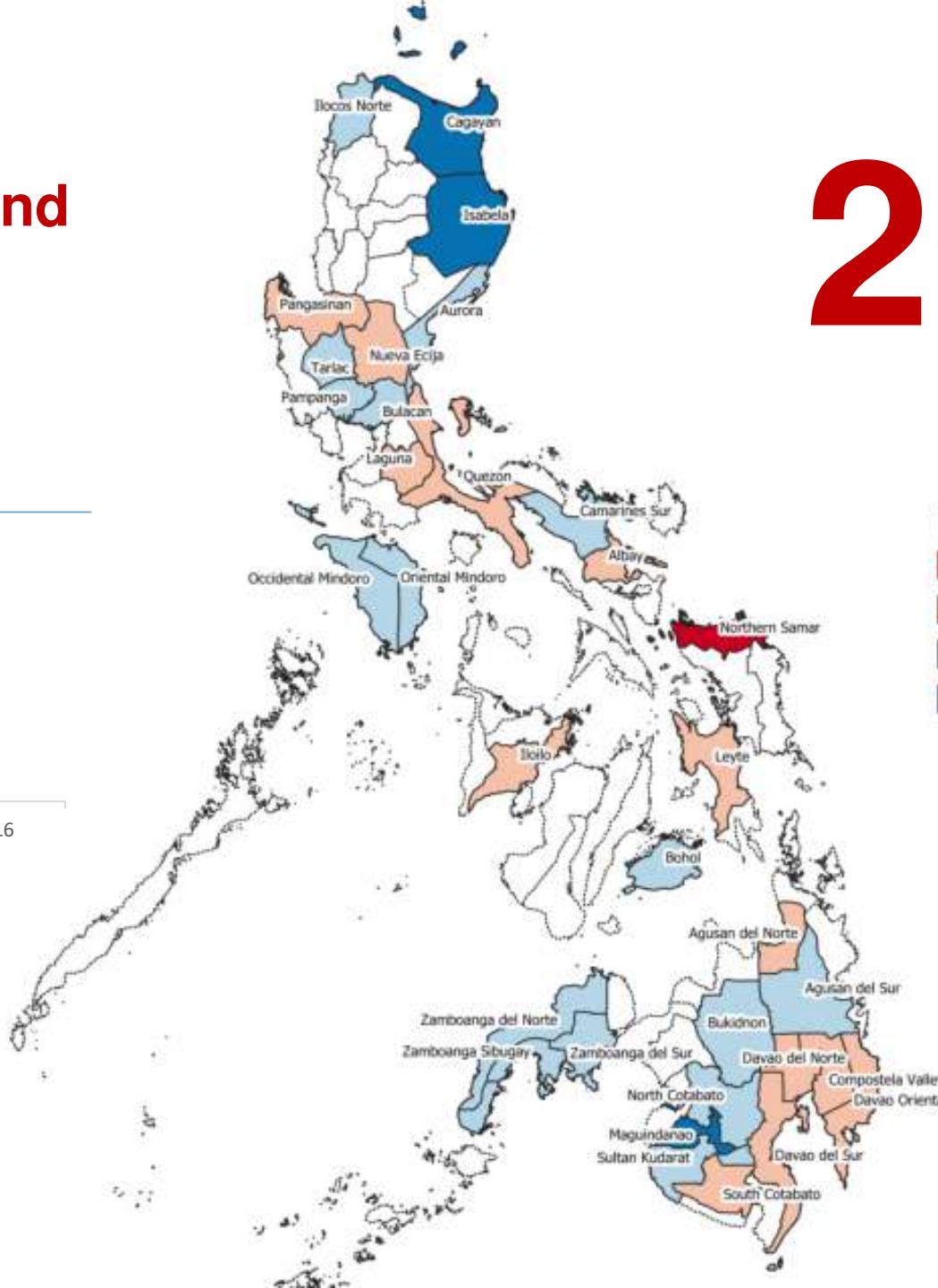
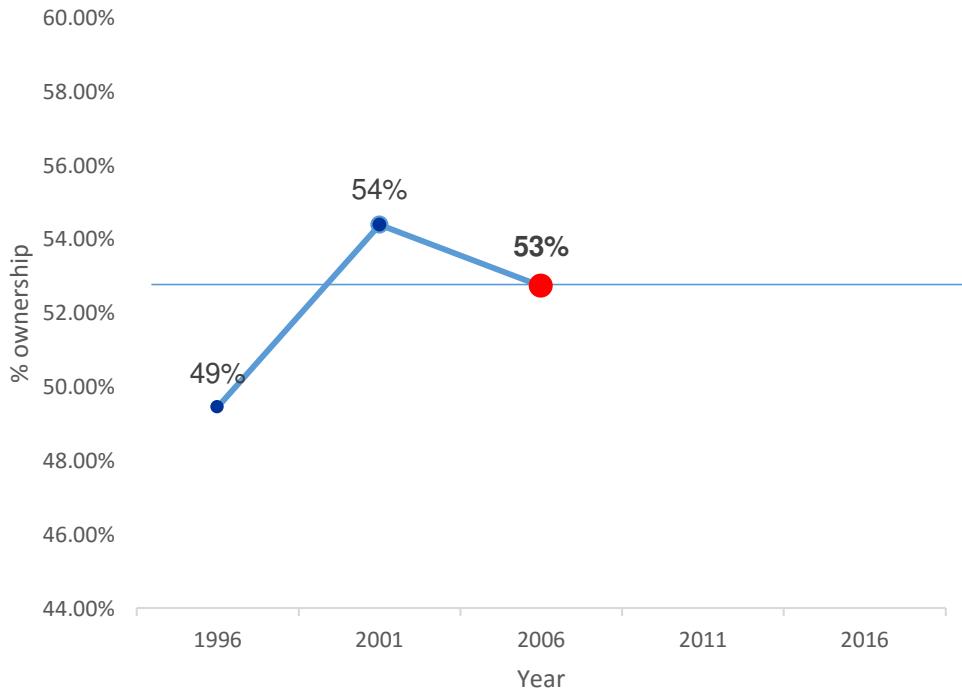
- Below 25 %
- 25 - 50 %
- 50 - 75 %
- Above 75 %

Ownership (%) of rice farm land



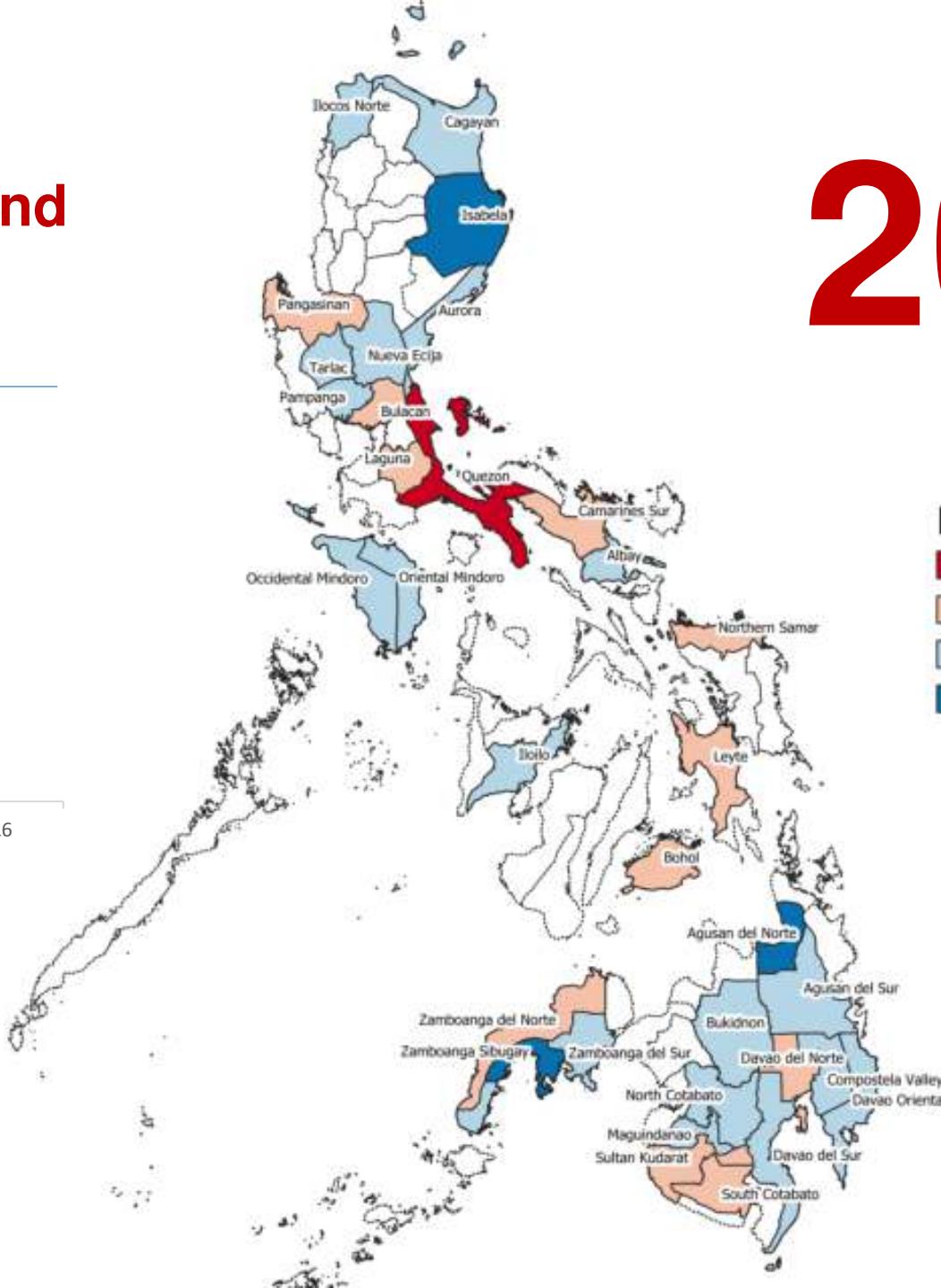
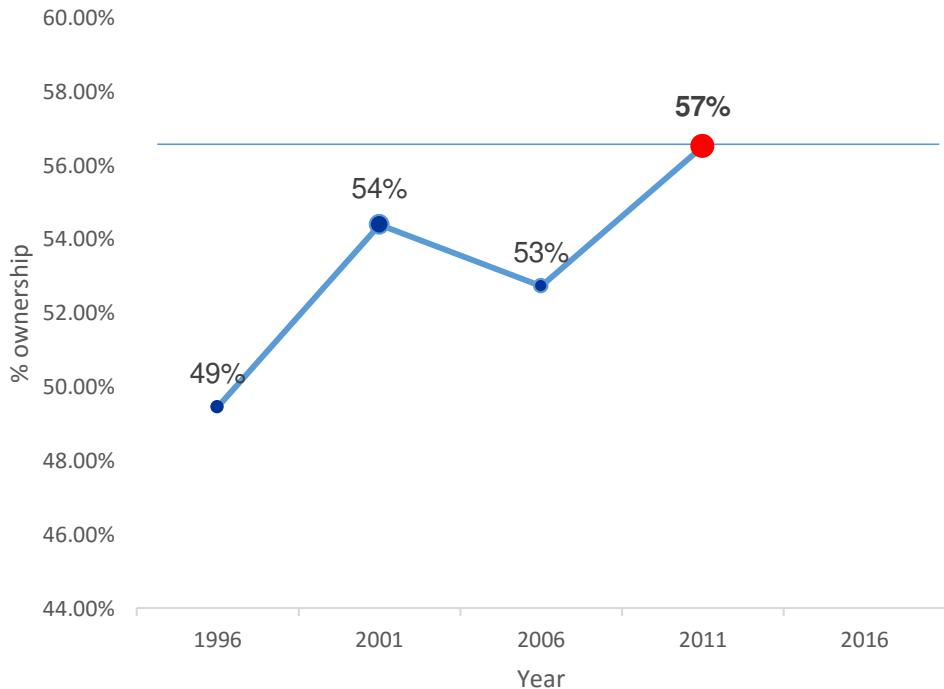
2001

Ownership (%) of rice farm land



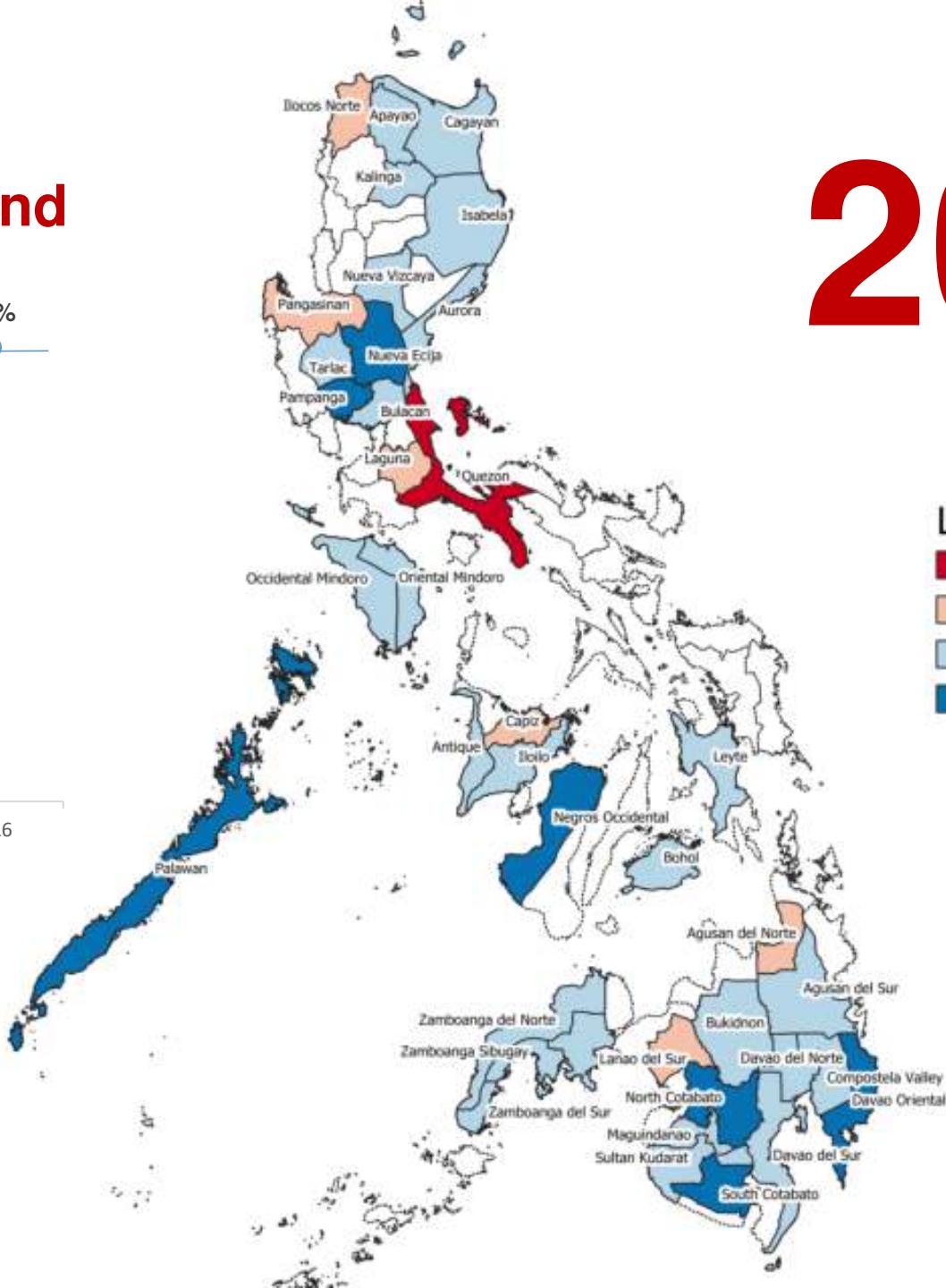
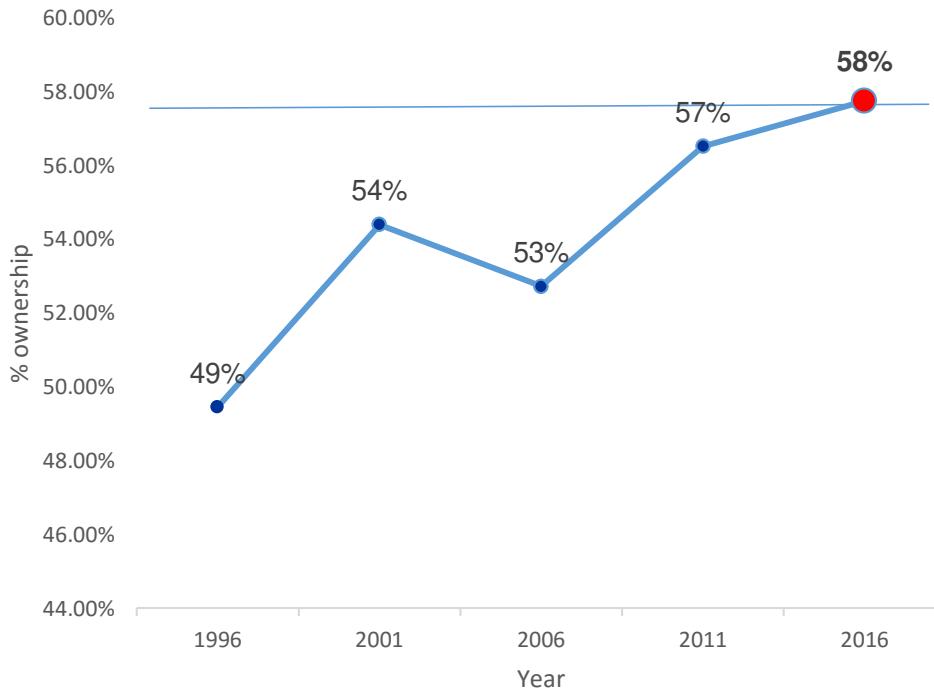
2006

Ownership (%) of rice farm land



2011

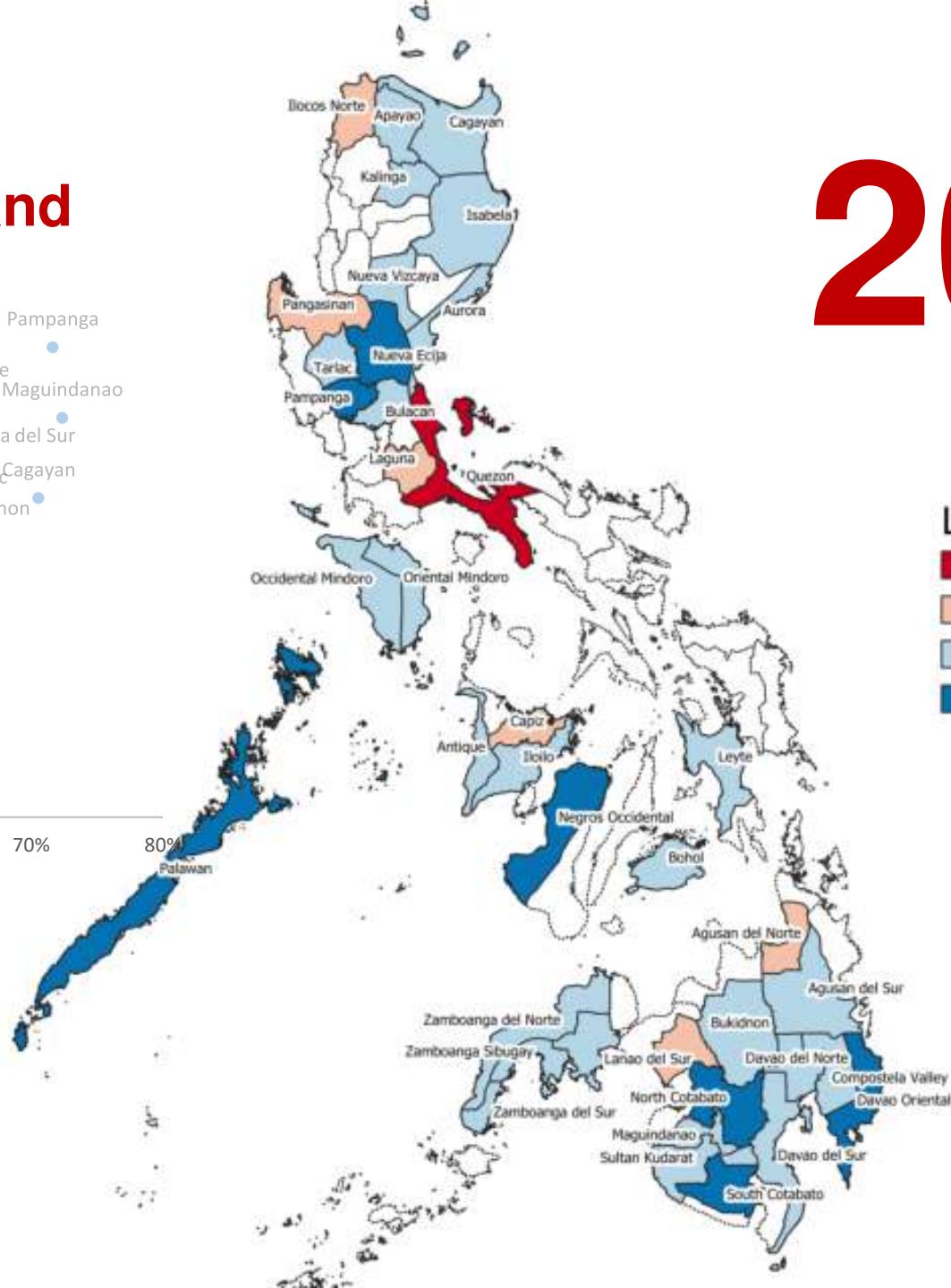
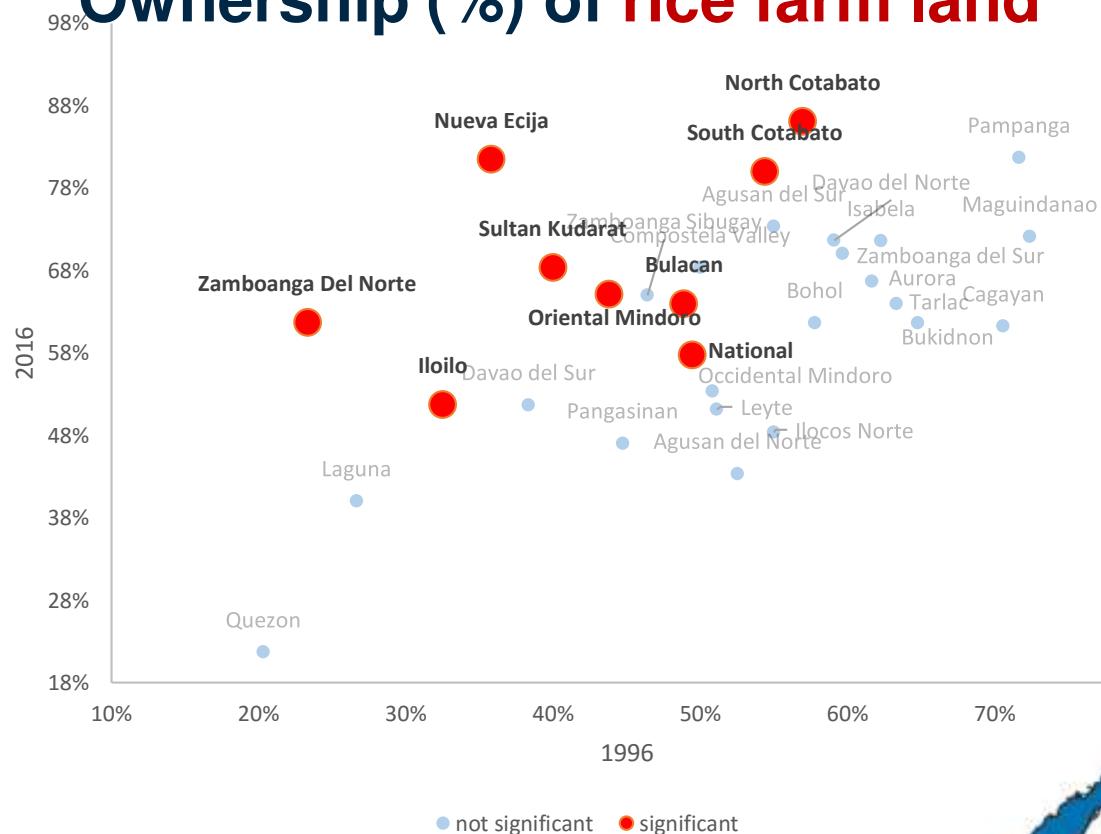
Ownership (%) of rice farm land



2016

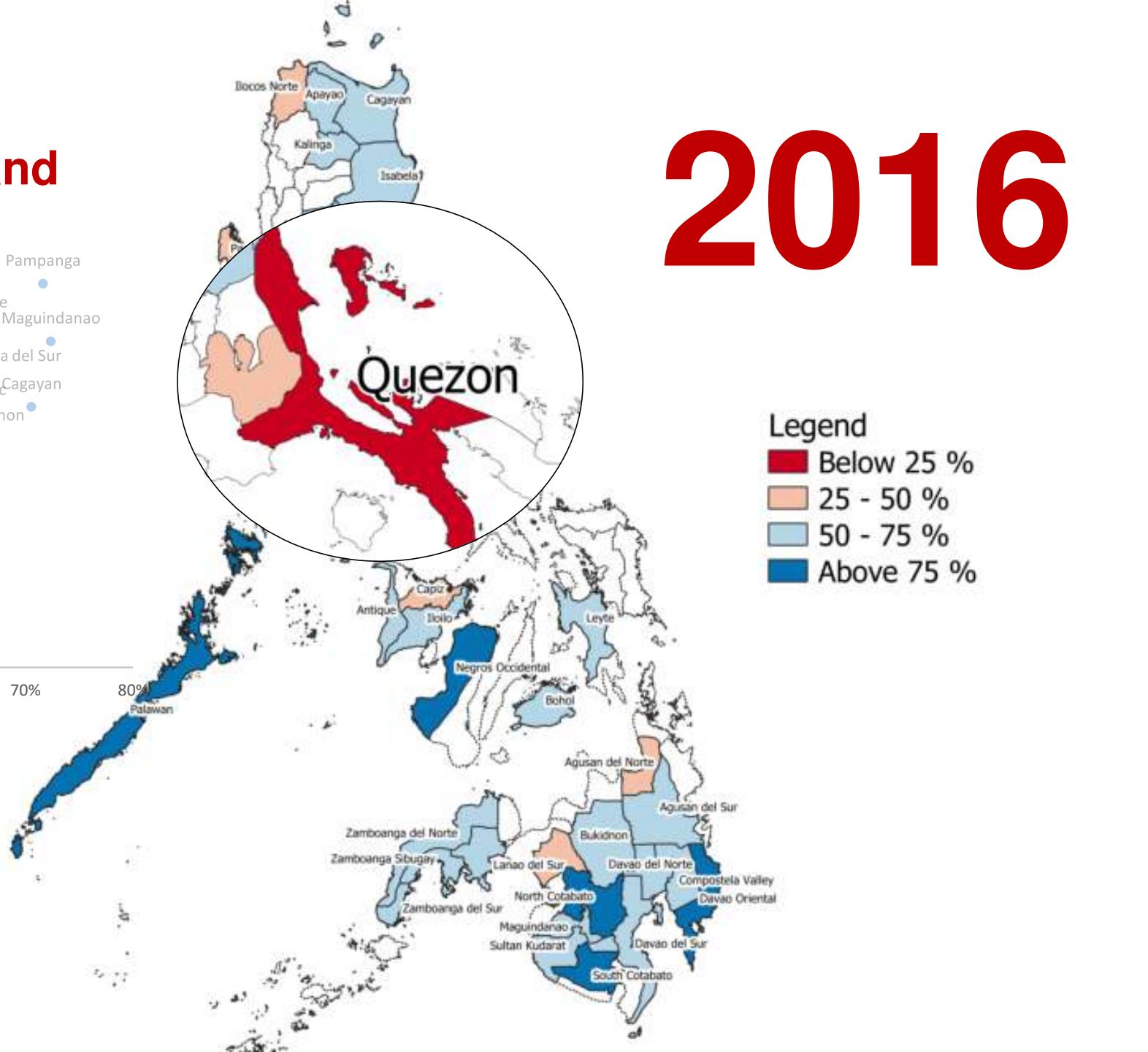
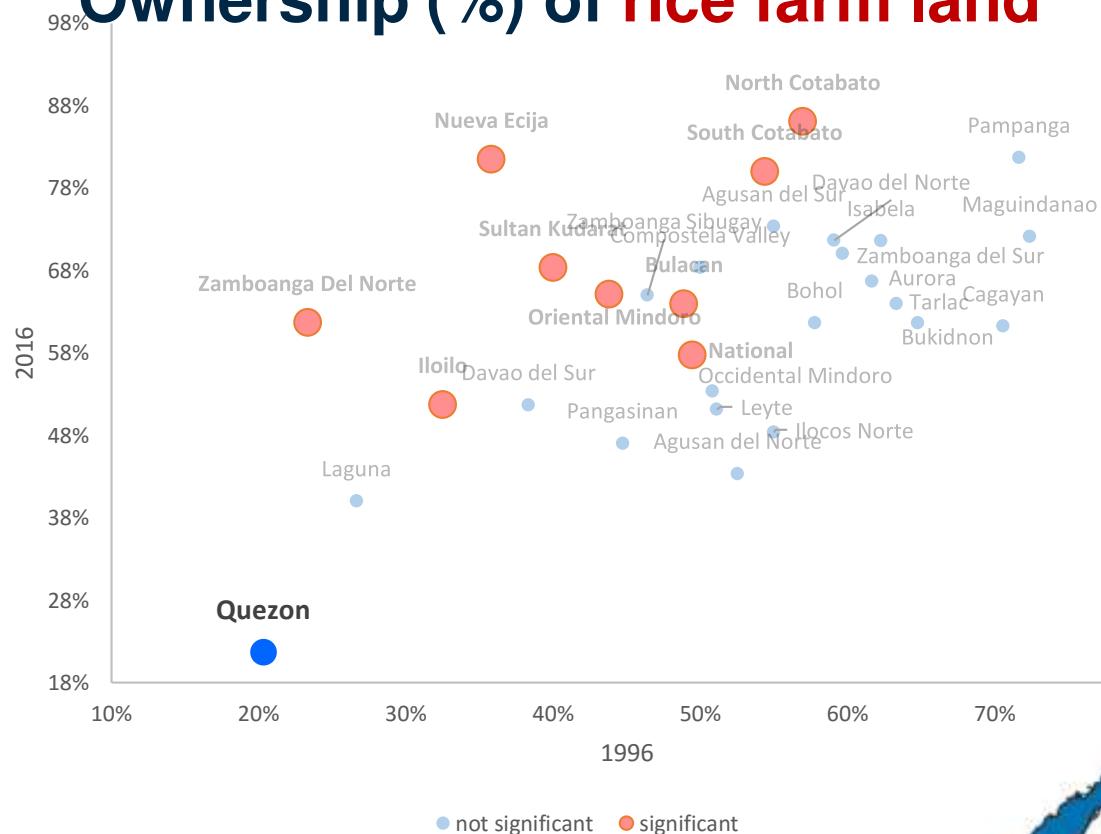
Ownership (%) of rice farm land

2016



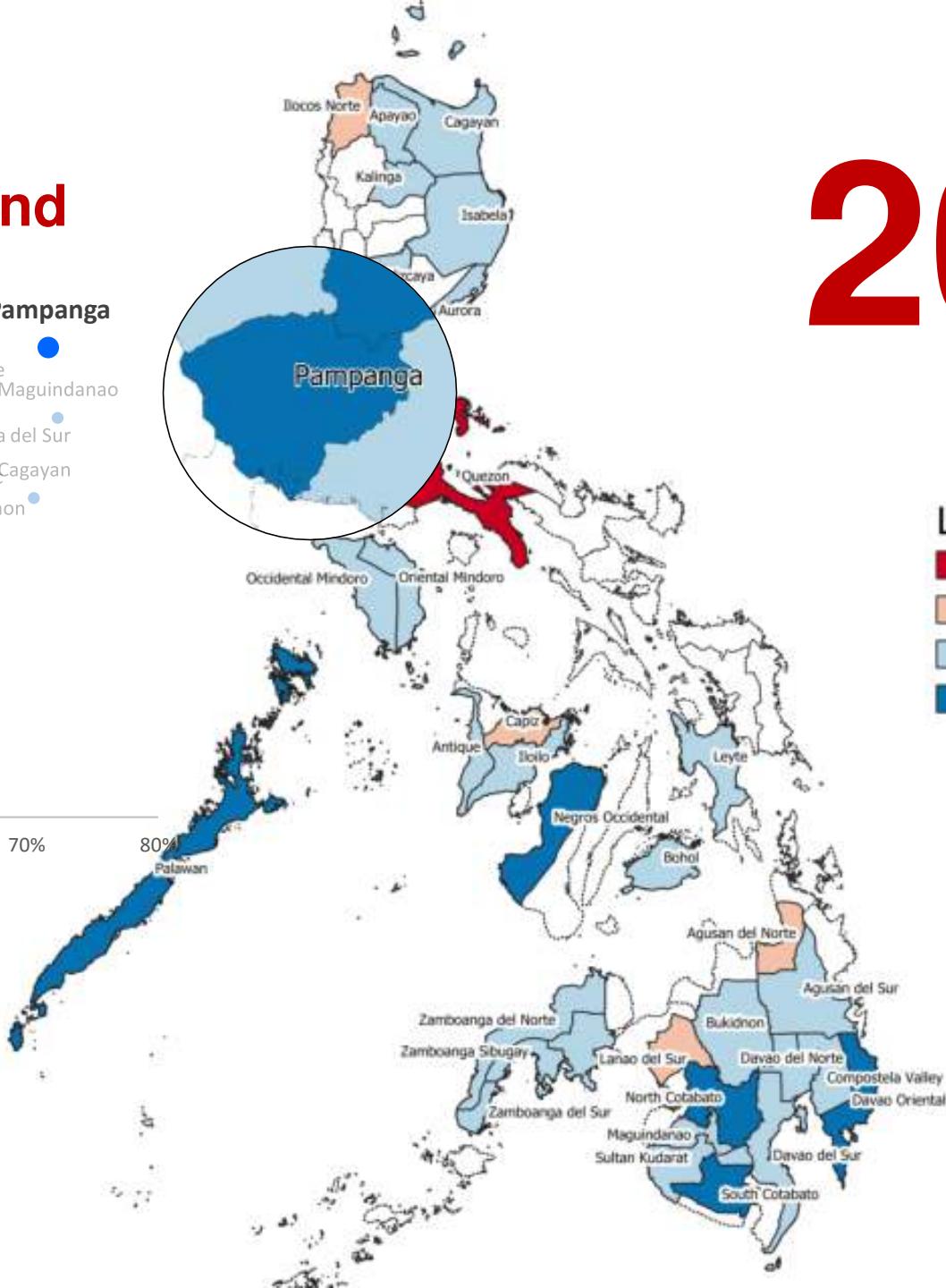
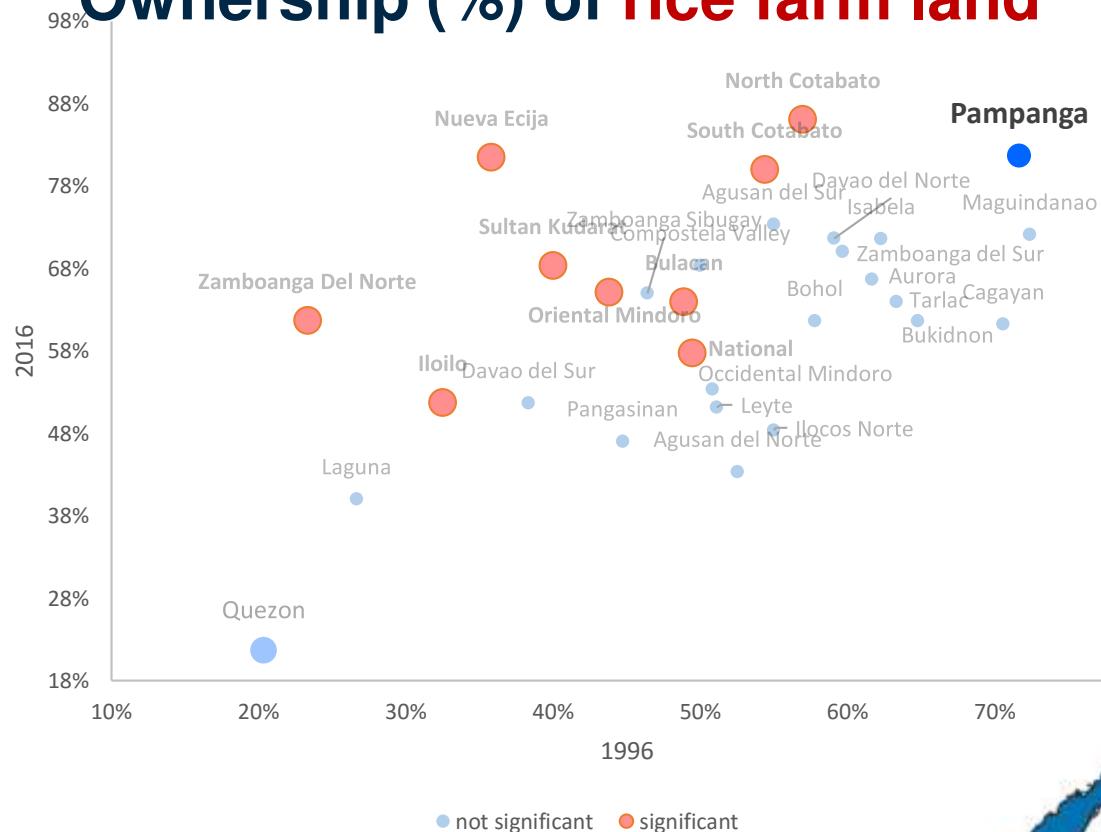
2016

Ownership (%) of rice farm land



2016

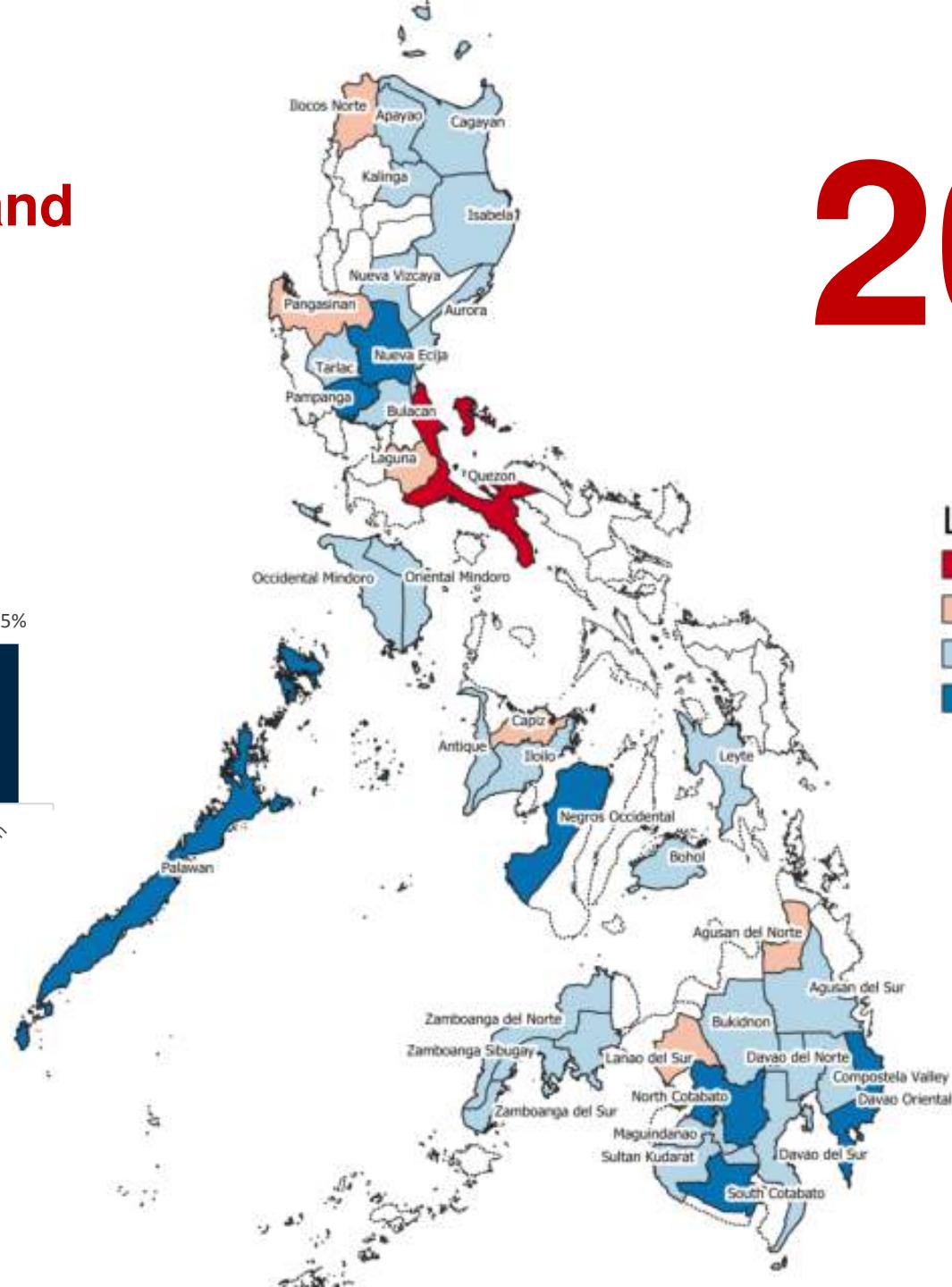
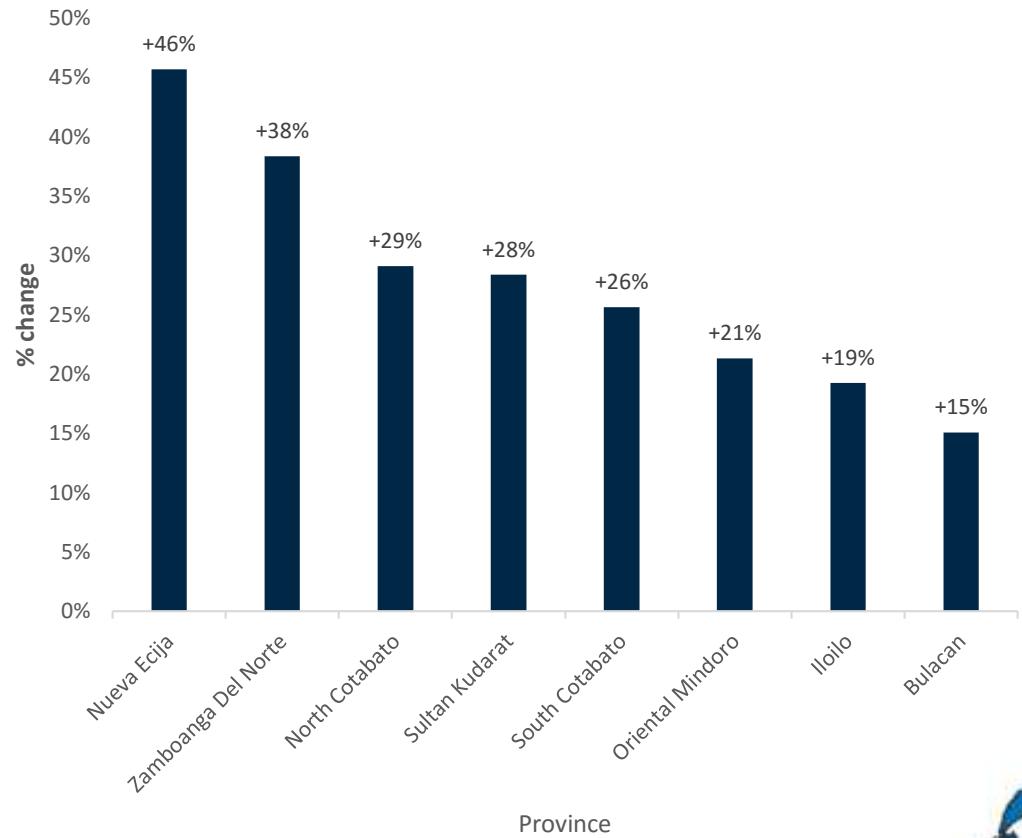
Ownership (%) of rice farm land



Legend

- Below 25 %
- 25 - 50 %
- 50 - 75 %
- Above 75 %

Ownership (%) of rice farm land

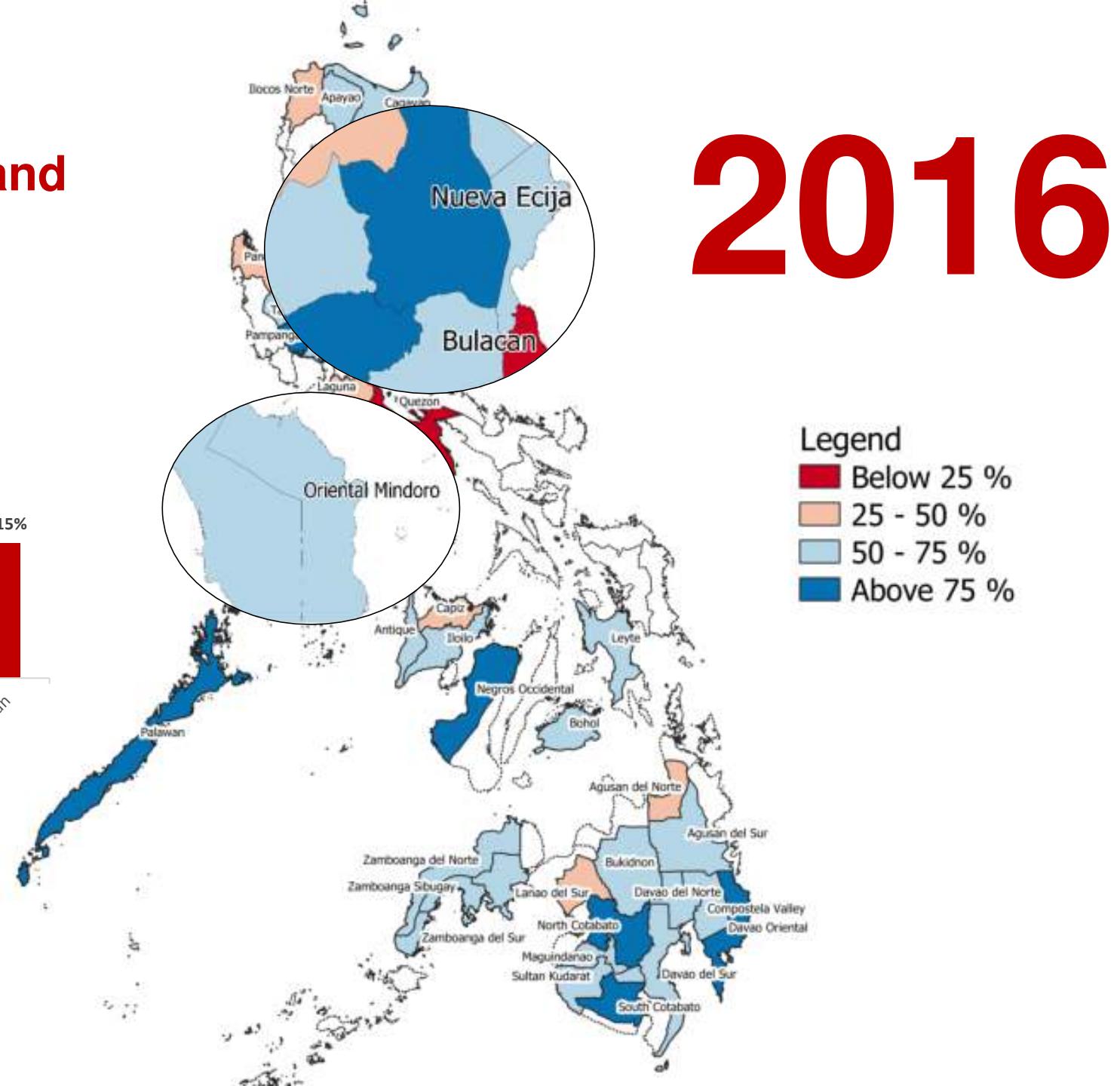
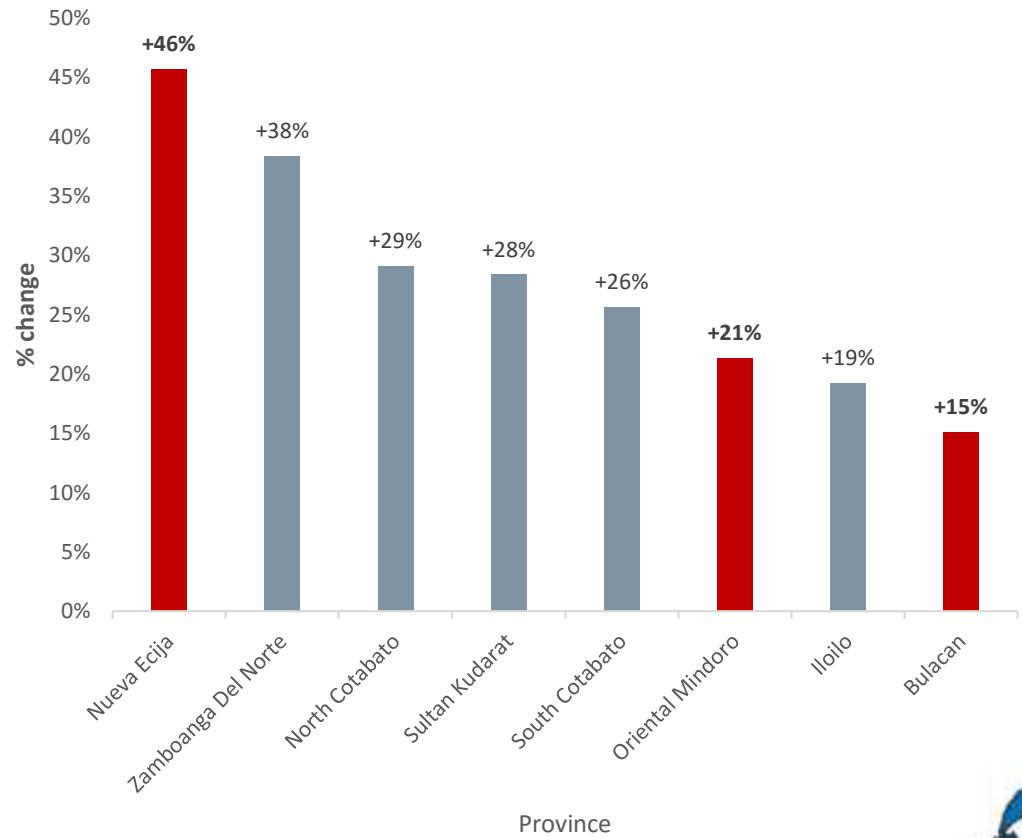


2016

Legend

- Below 25 %
- 25 - 50 %
- 50 - 75 %
- Above 75 %

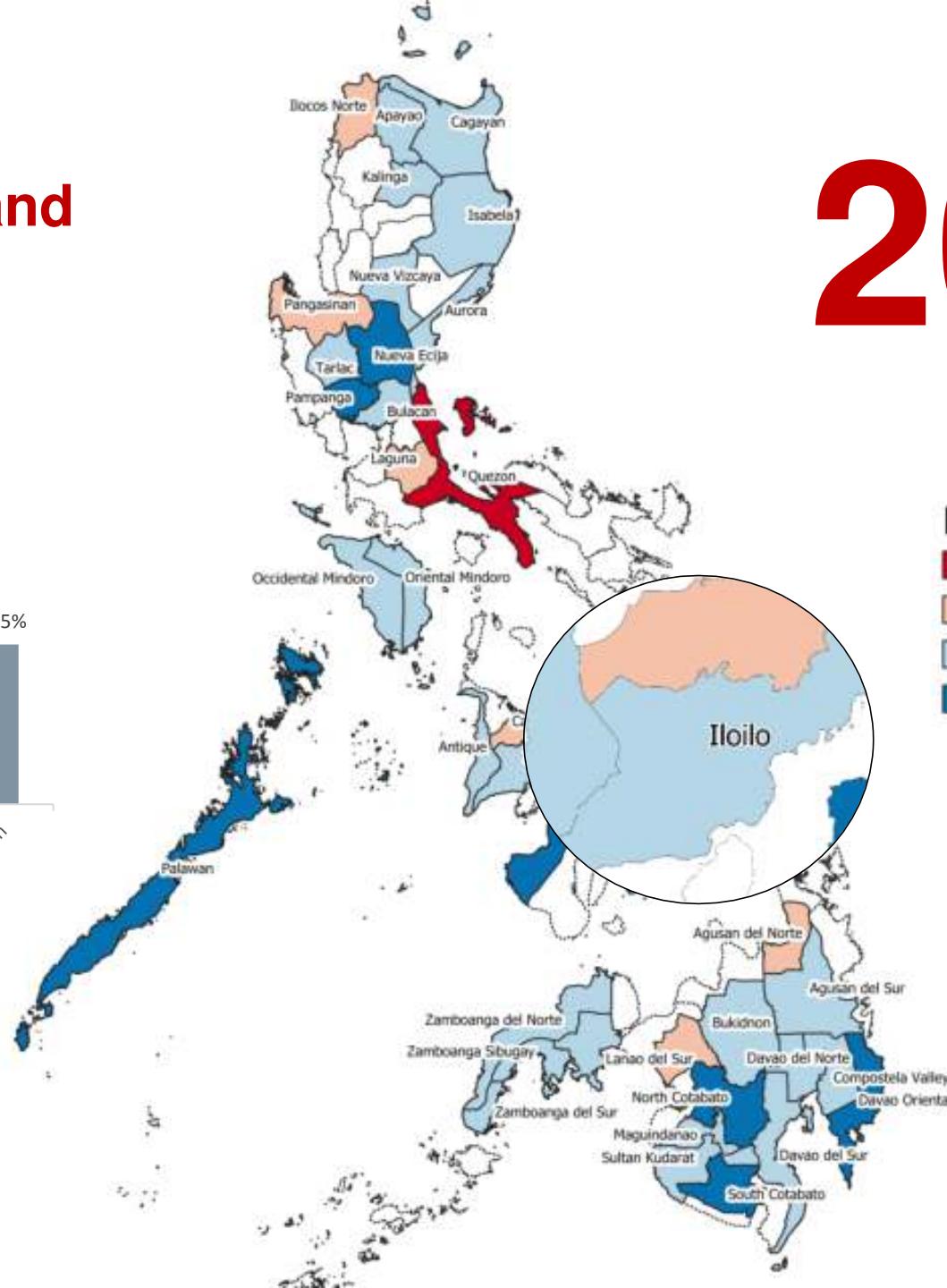
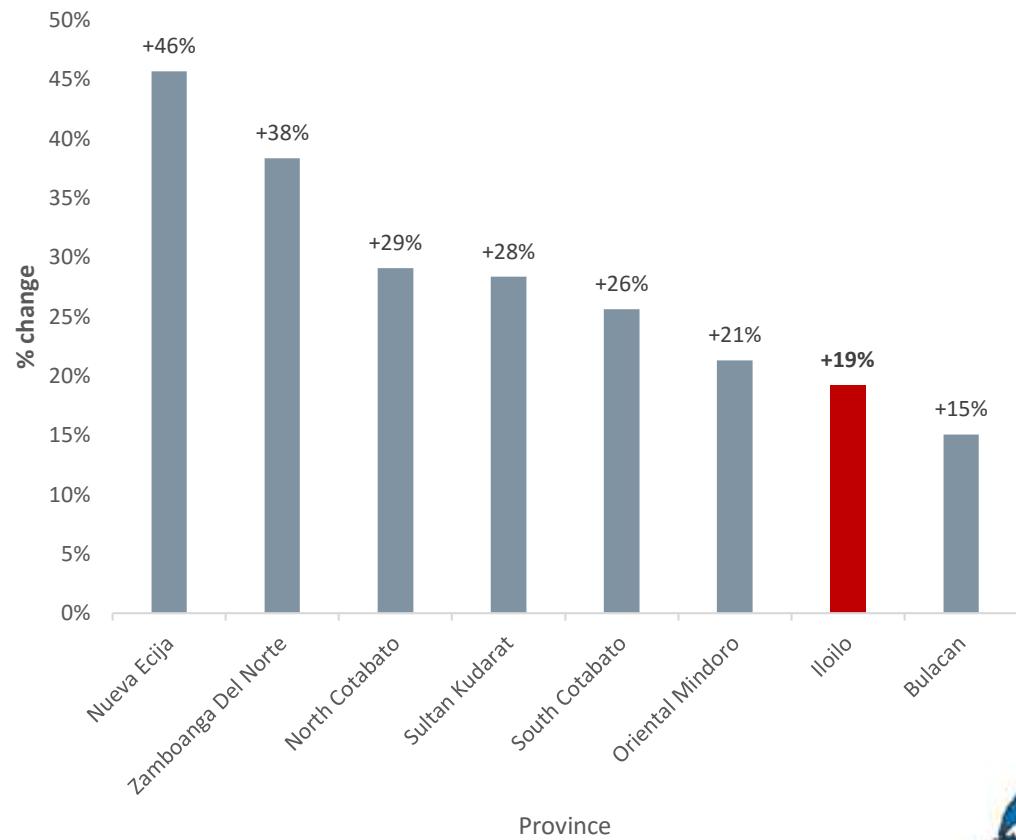
Ownership (%) of rice farm land



2016

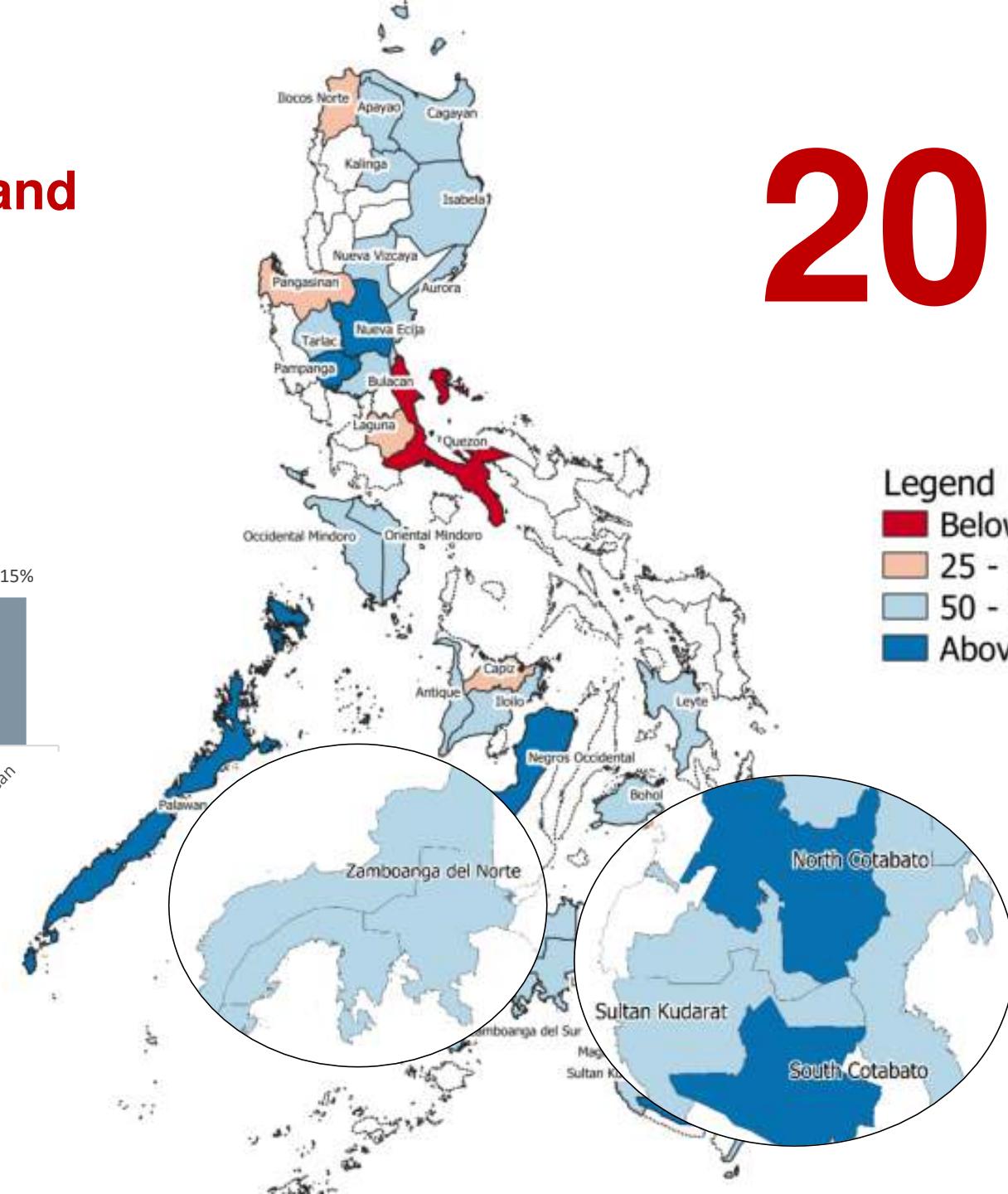
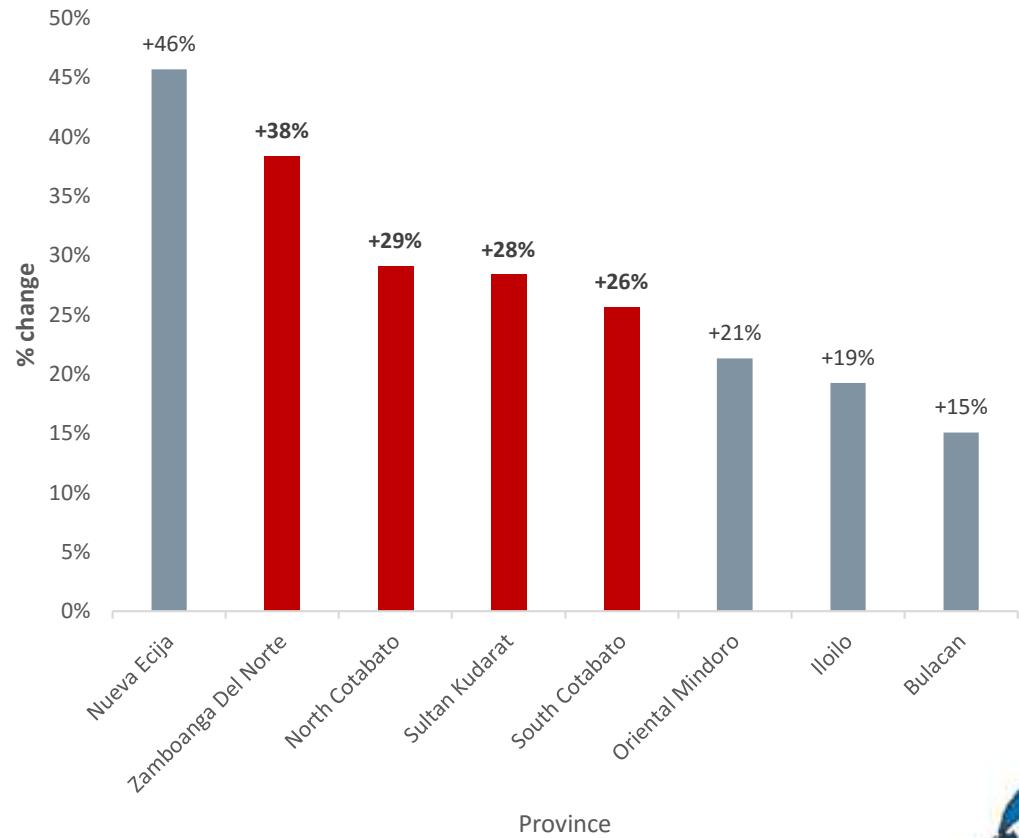
Ownership (%) of rice farm land

2016



Ownership (%) of rice farm land

2016



Farm Assets

Rice Farm land

Draft Animals

Farm Machineries

Irrigation equipment/facility

Farm tools and Implements

Post harvest facility

Farm Assets

Rice Farm land

Draft Animals

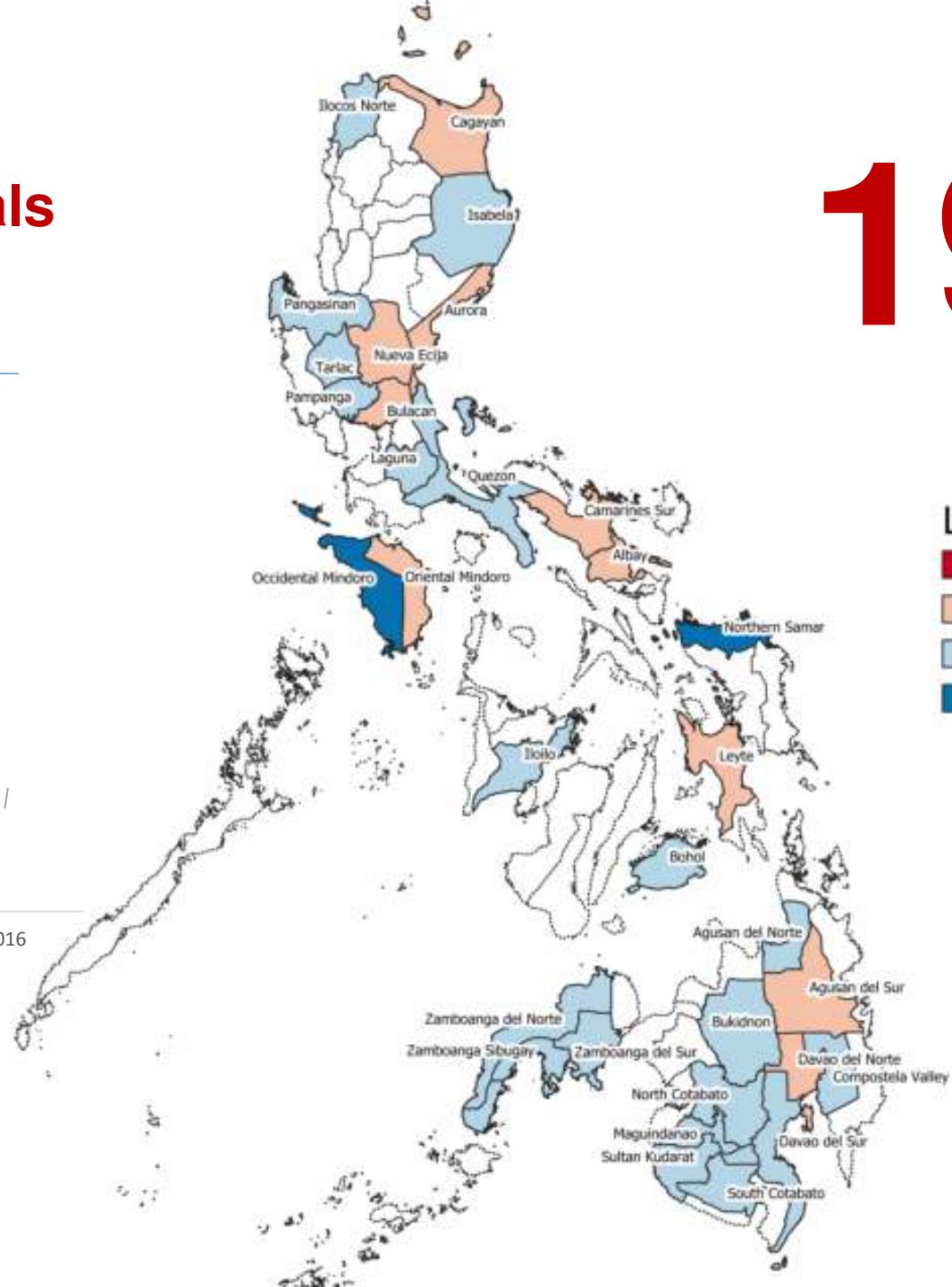
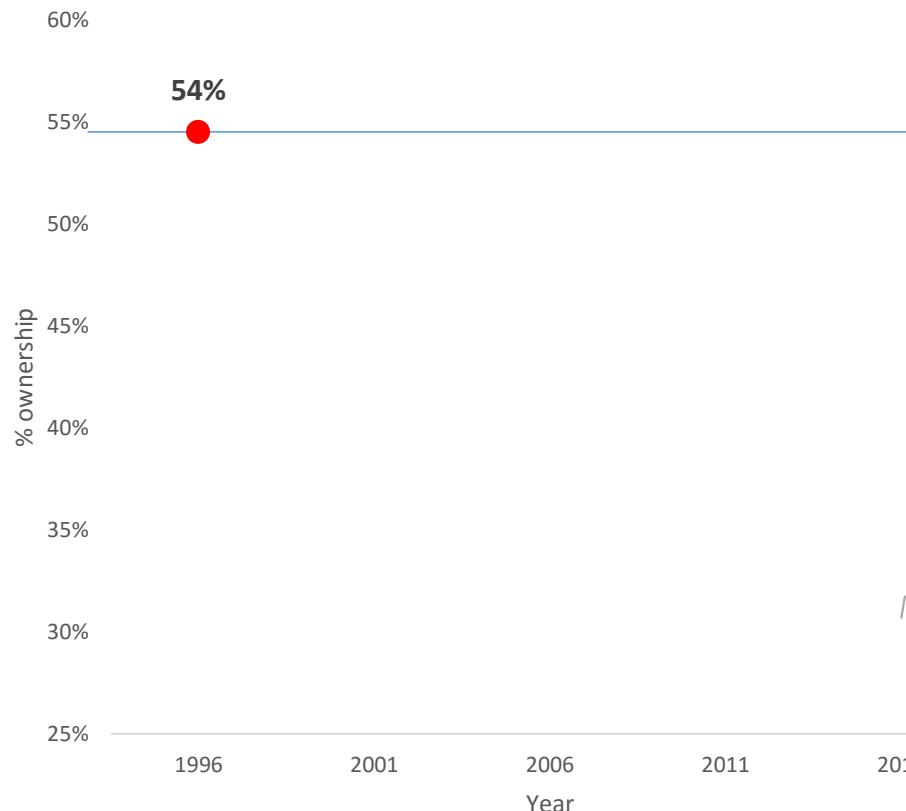
Farm Machineries

Irrigation equipment/facility

Farm tools and Implements

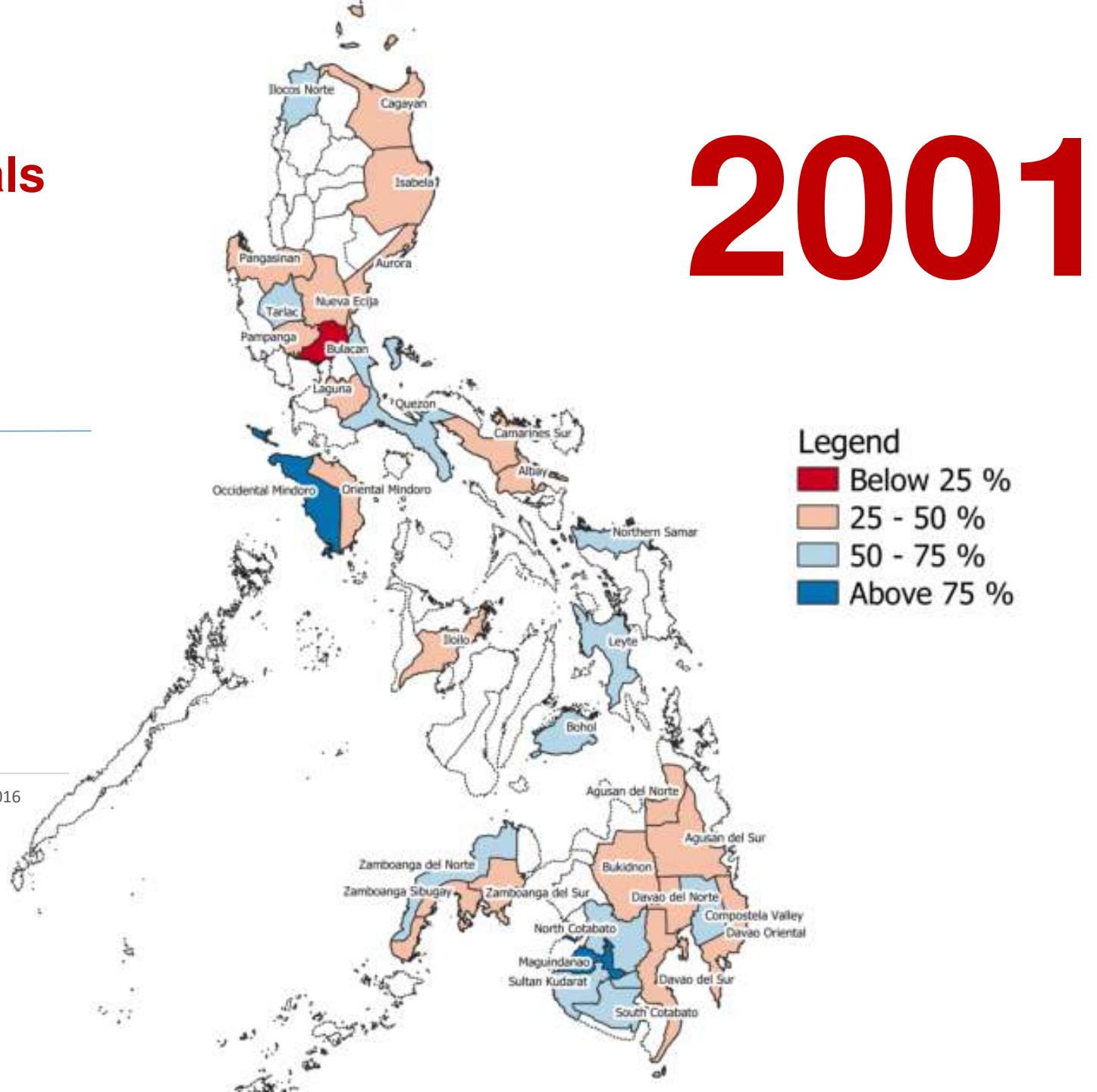
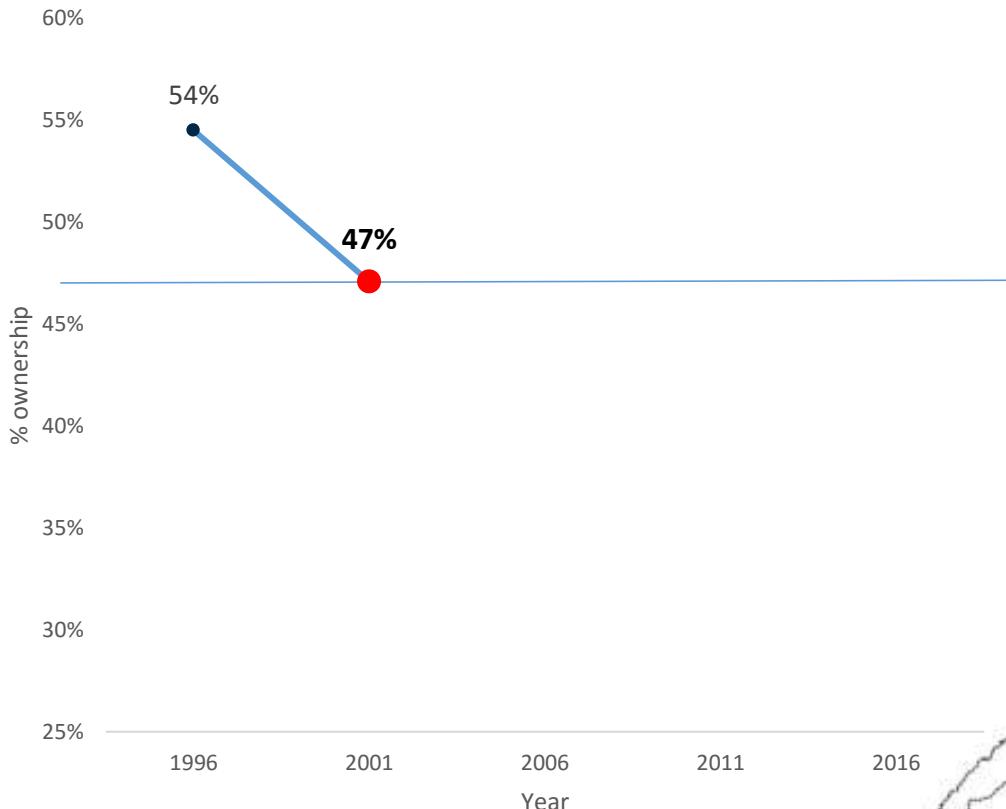
Post harvest facility

Ownership (%) of draft animals

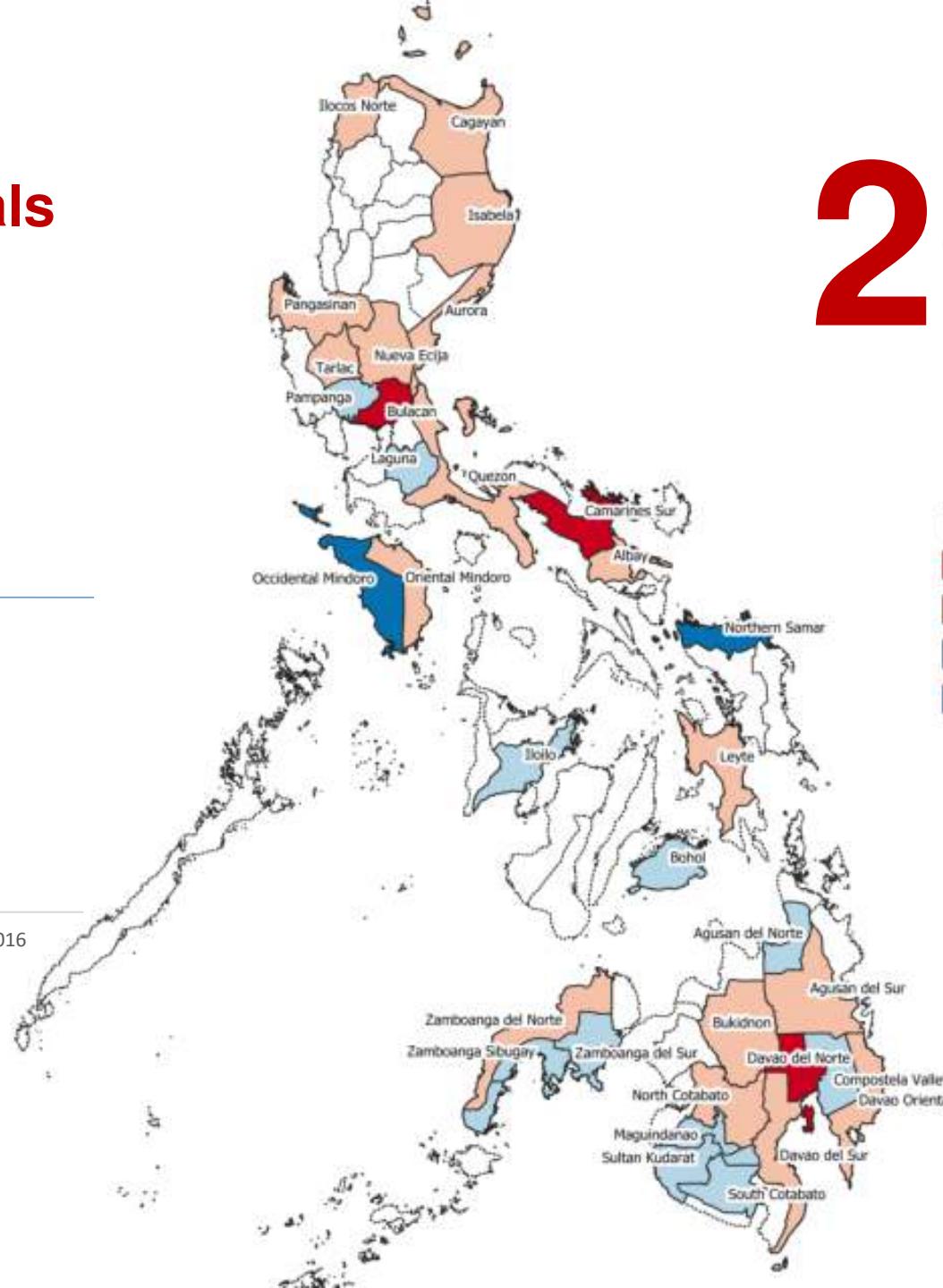
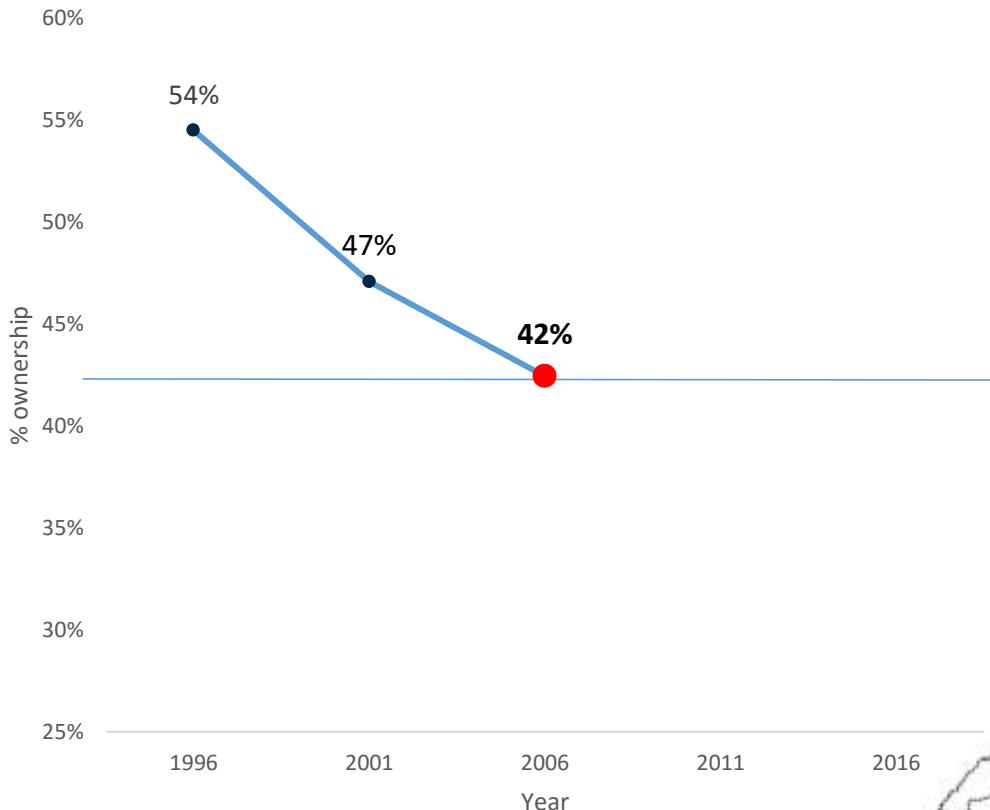


1996

Ownership (%) of draft animals

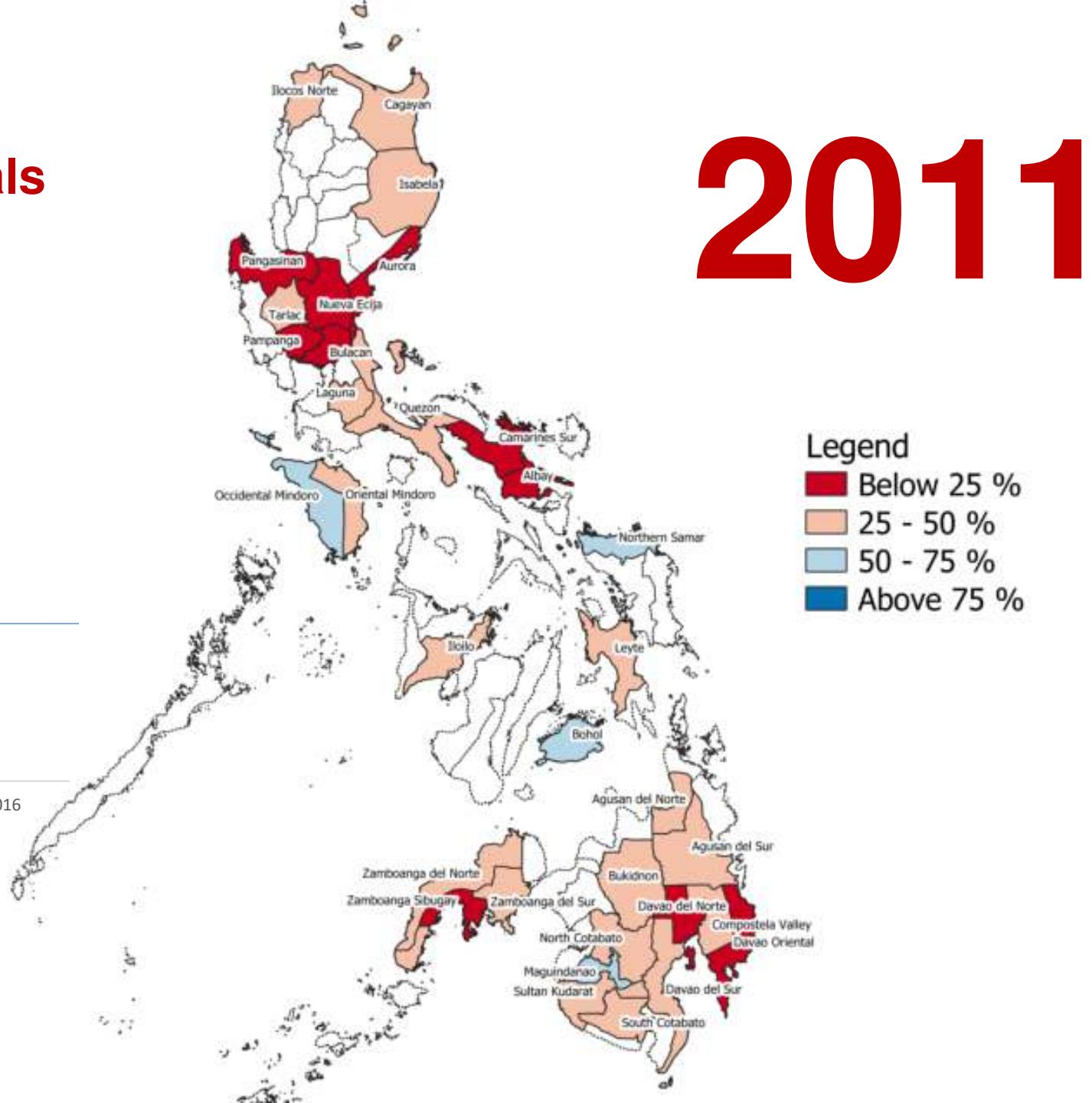
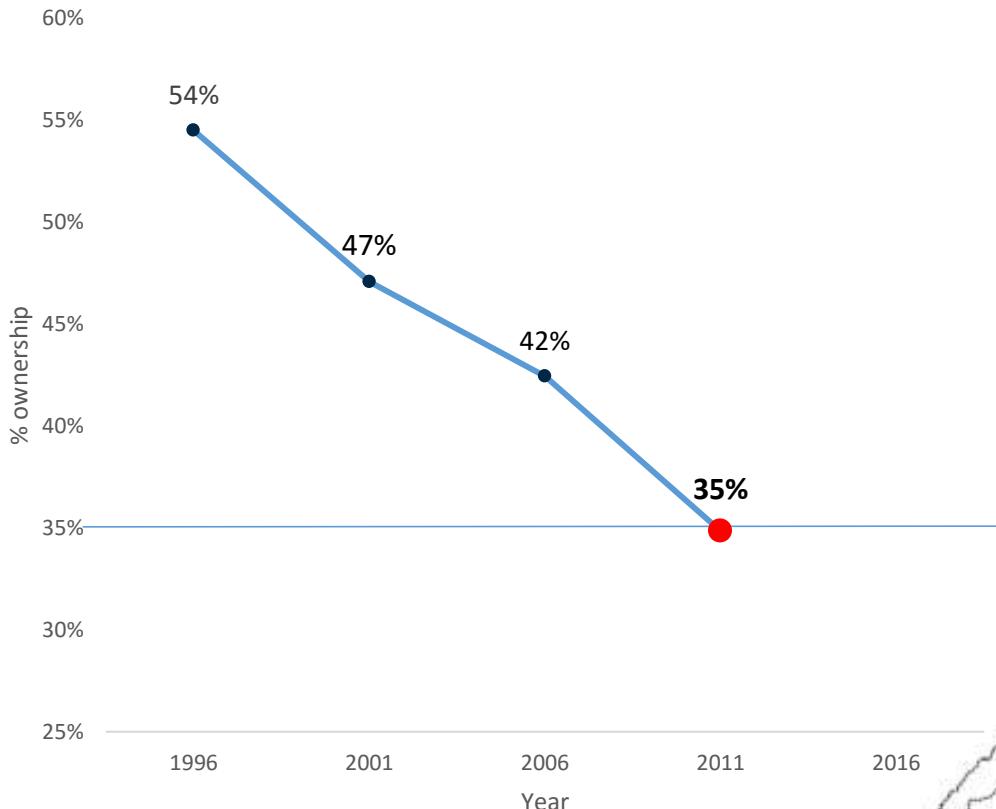


Ownership (%) of draft animals



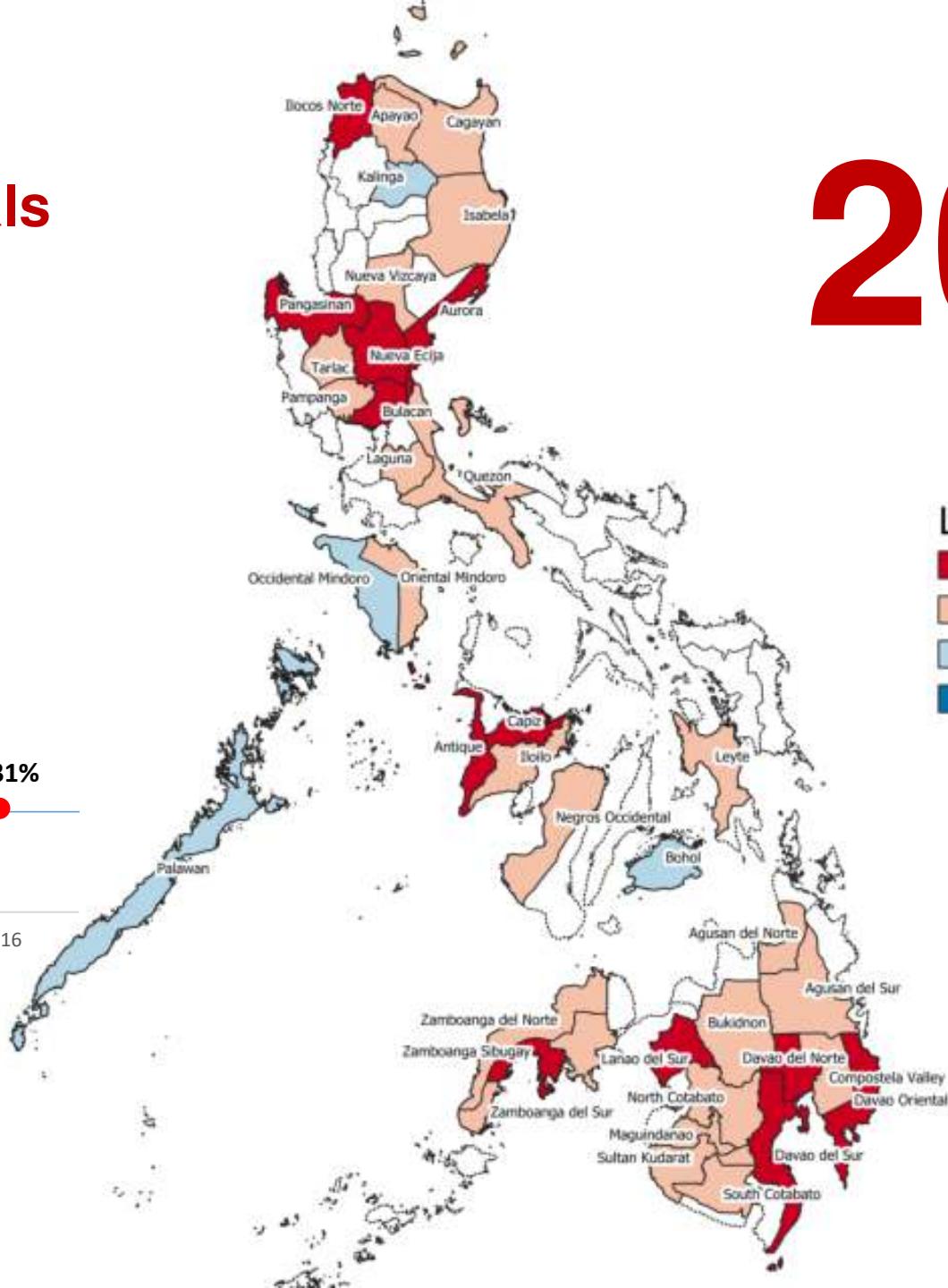
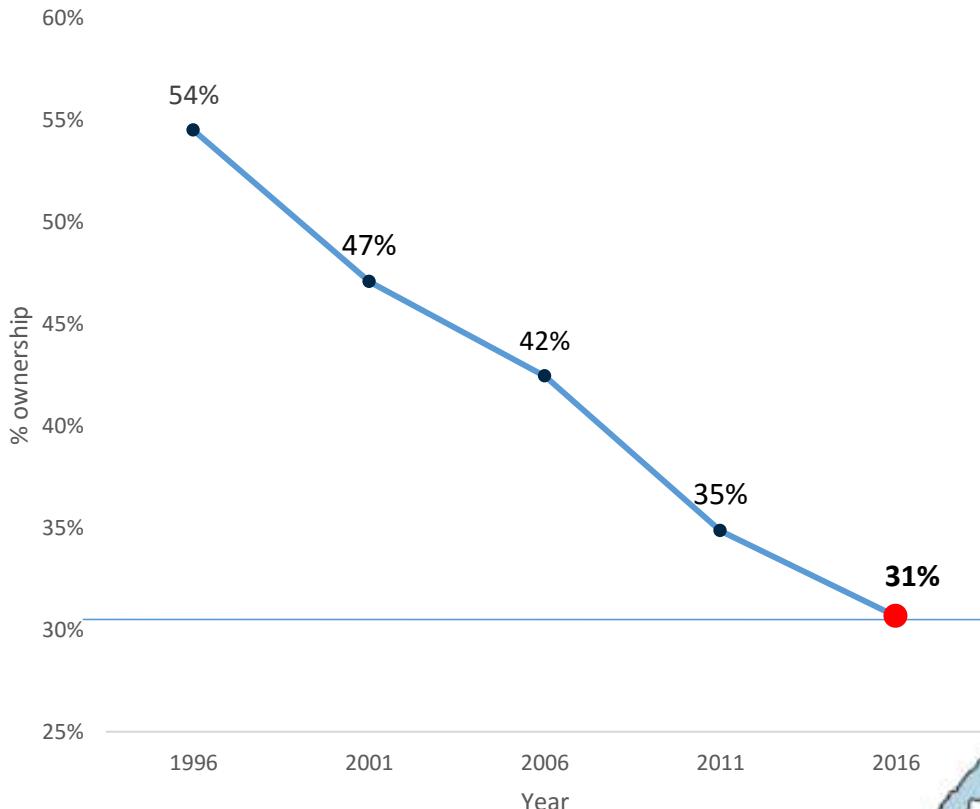
2006

Ownership (%) of draft animals



2011

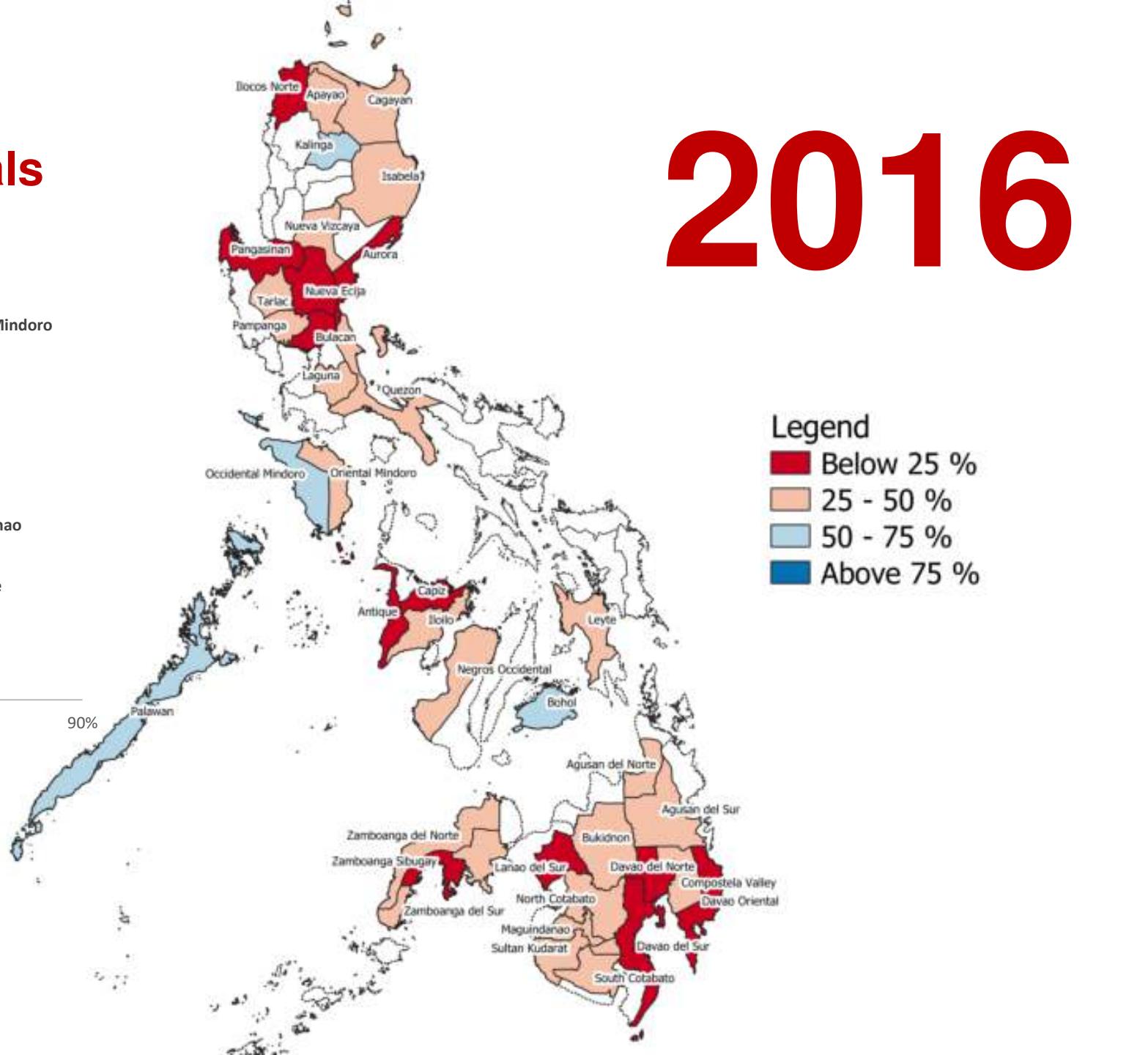
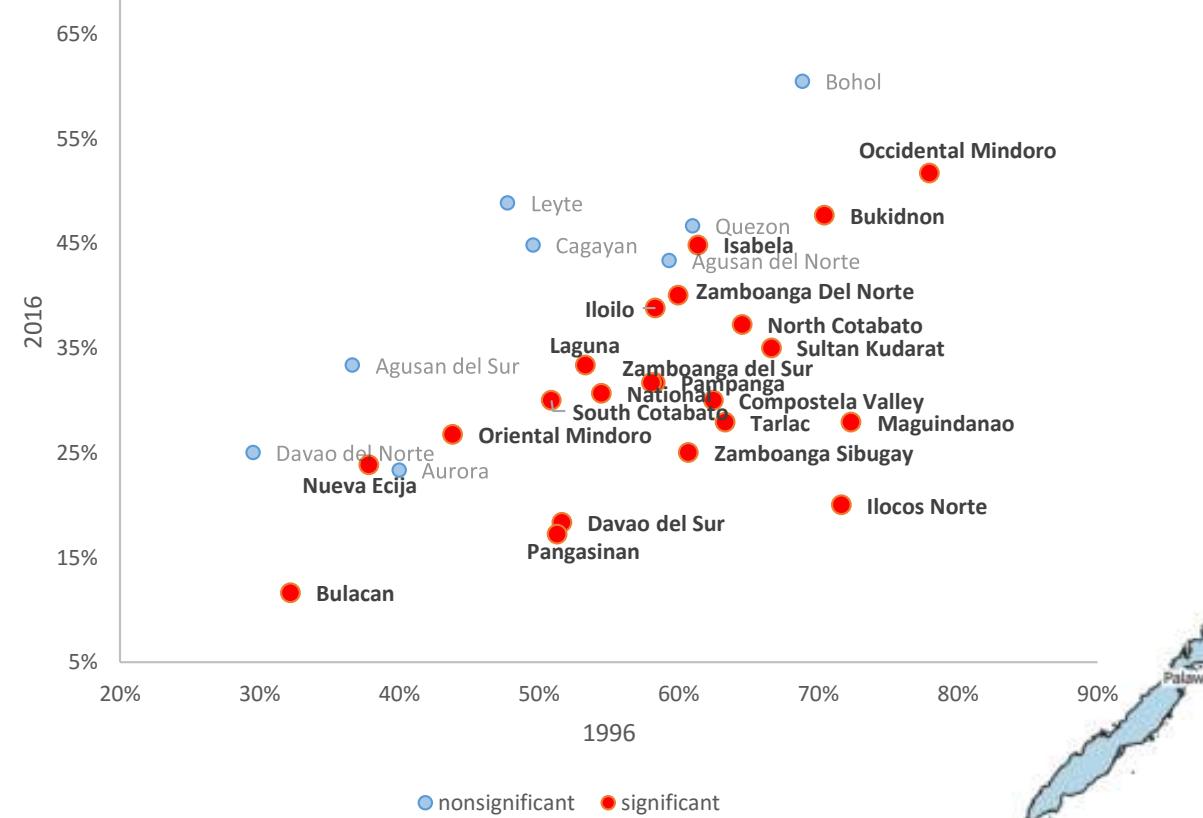
Ownership (%) of draft animals



2016

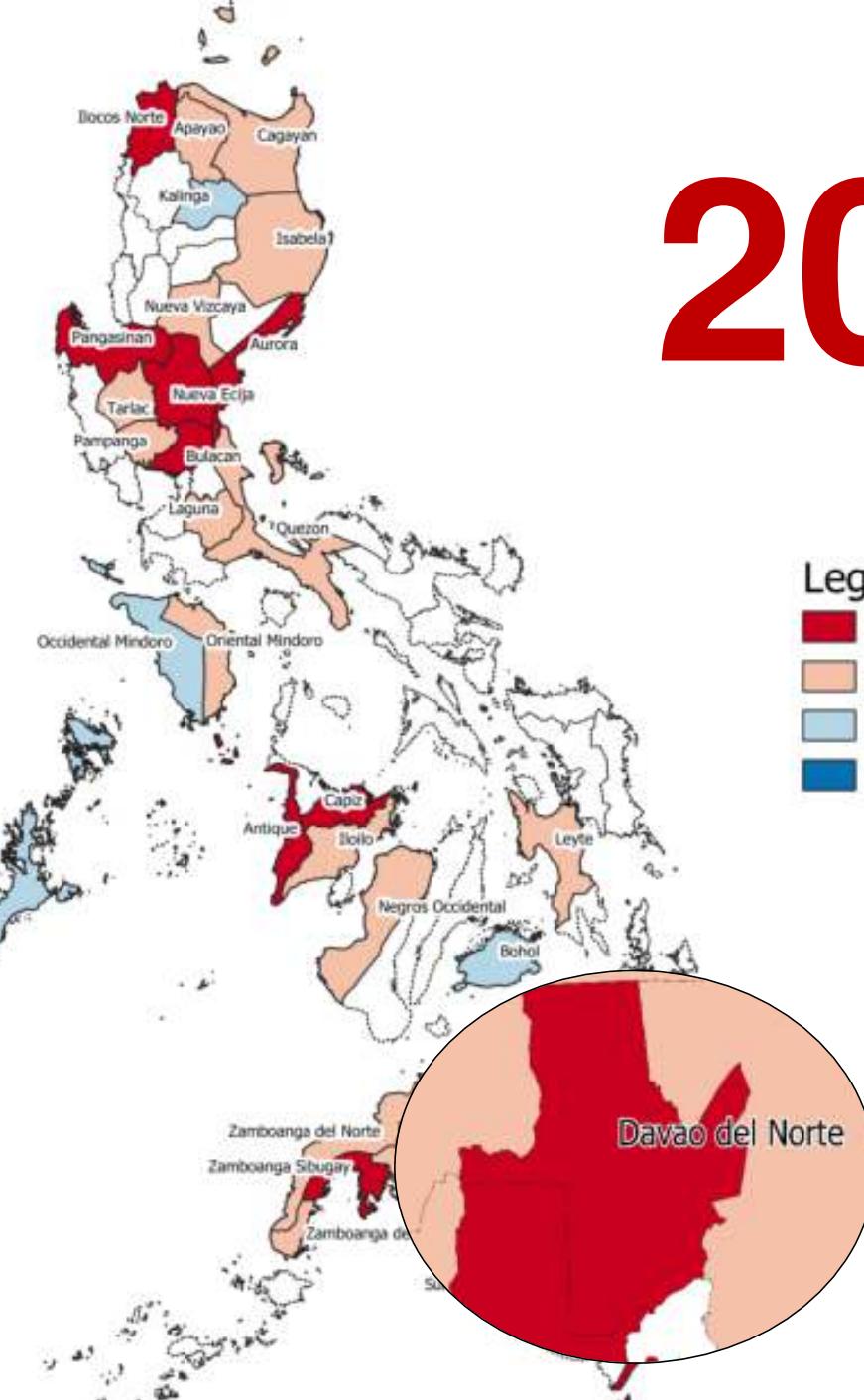
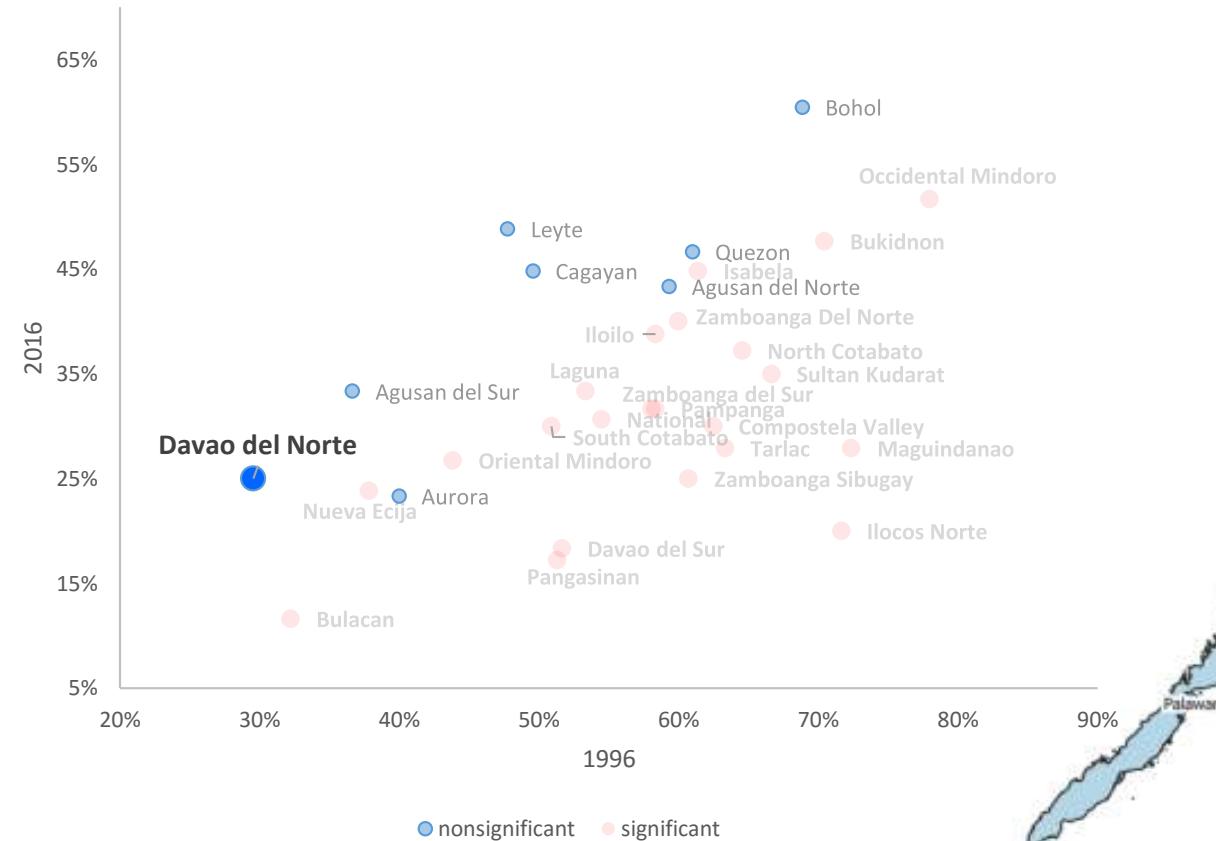
Ownership (%) of draft animals

2016



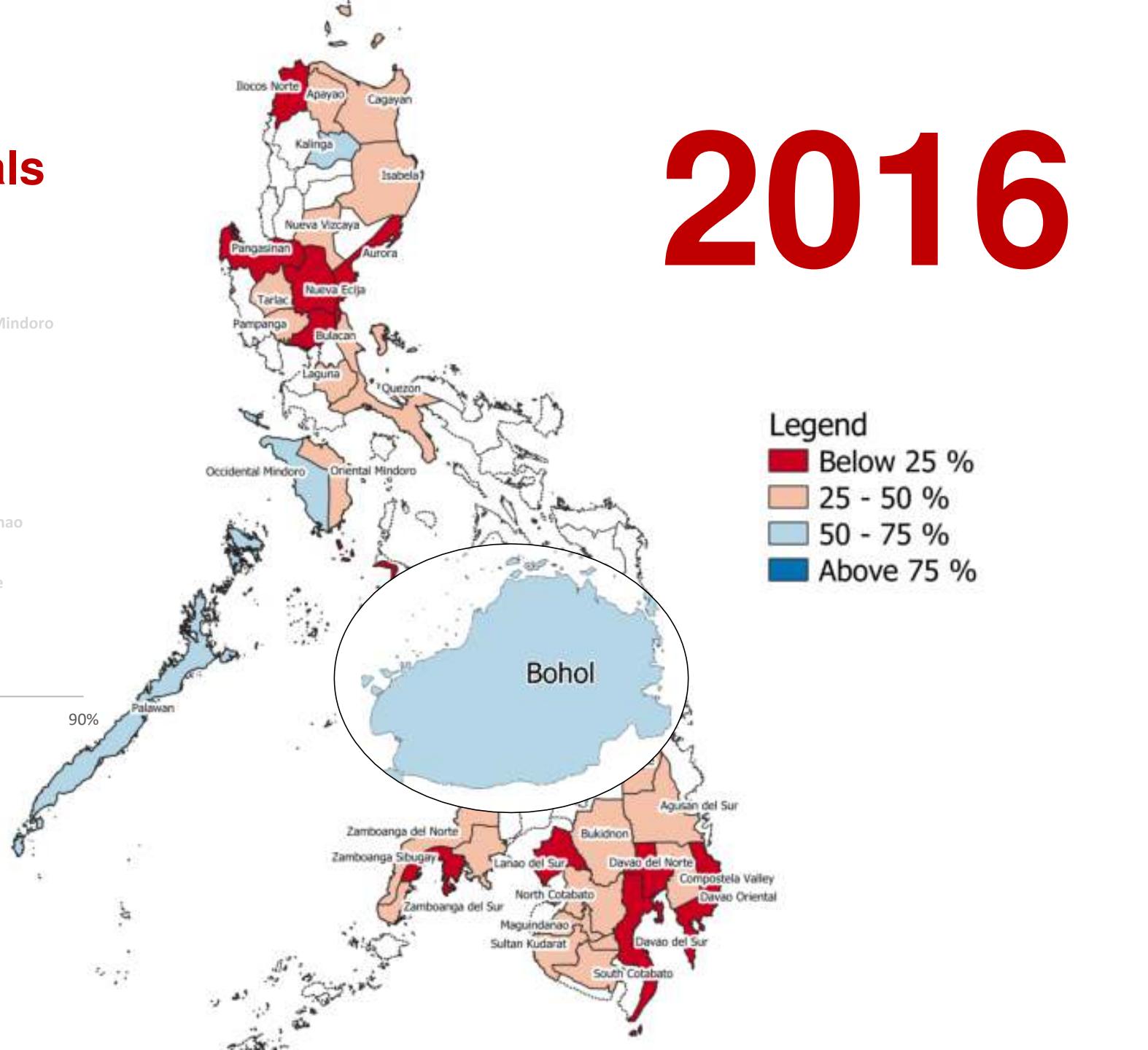
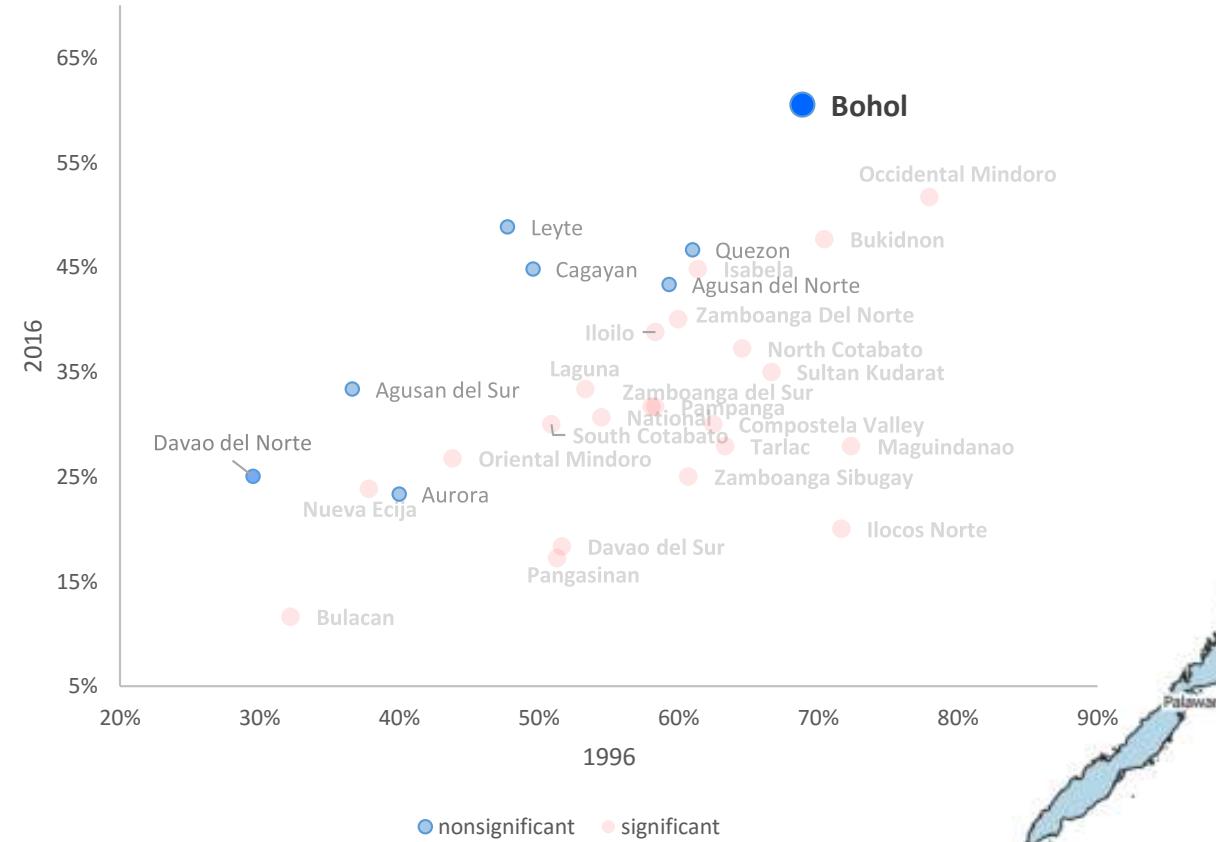
Ownership (%) of draft animals

2016



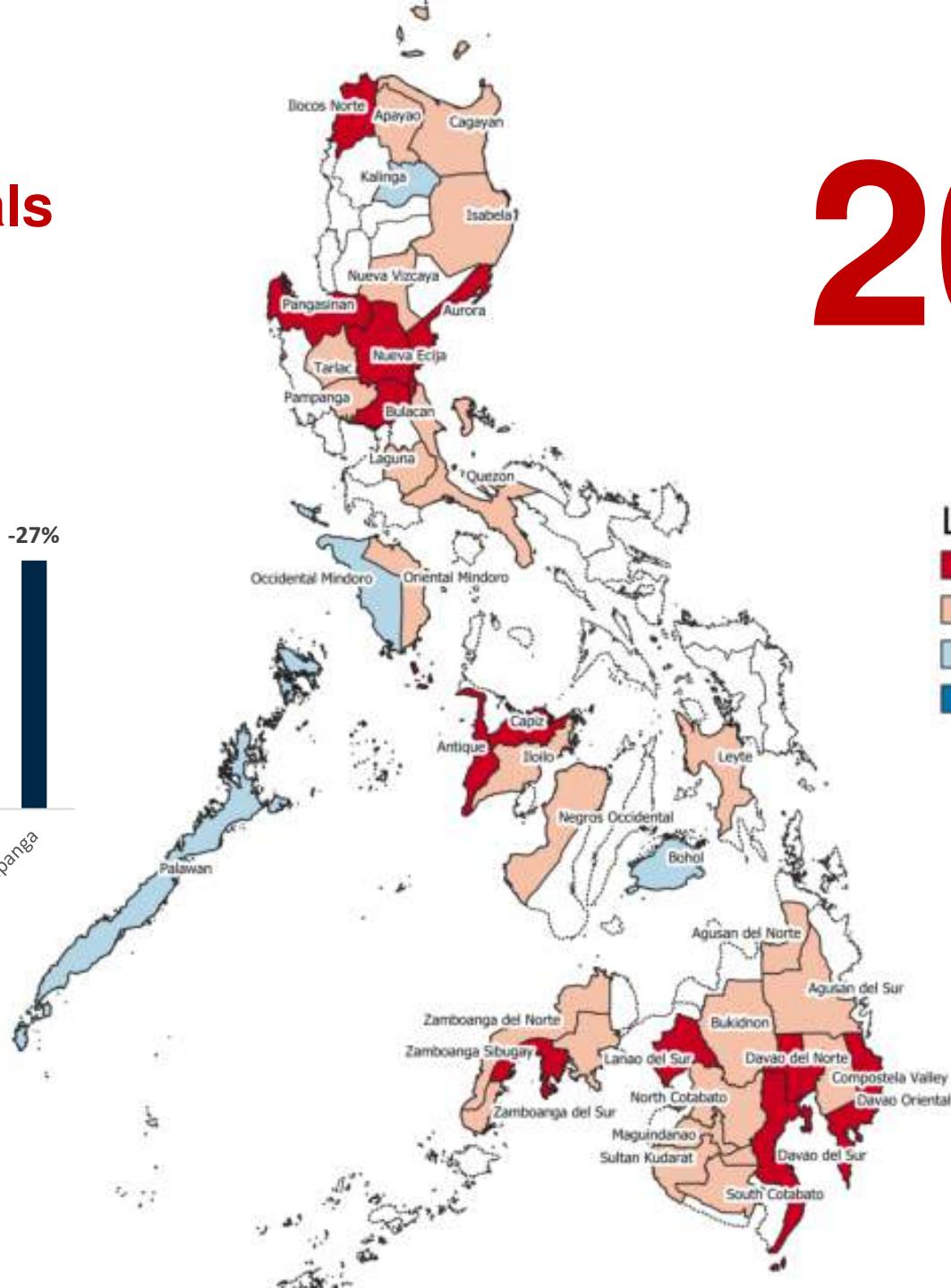
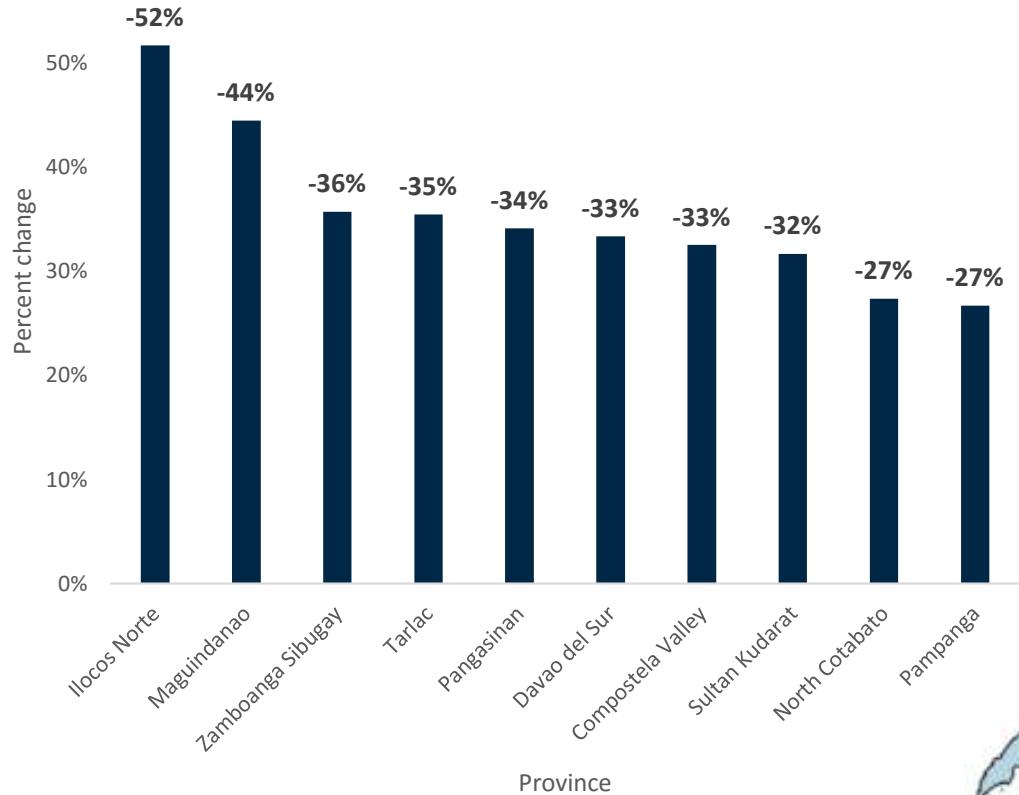
Ownership (%) of draft animals

2016



Ownership (%) of draft animals

60%



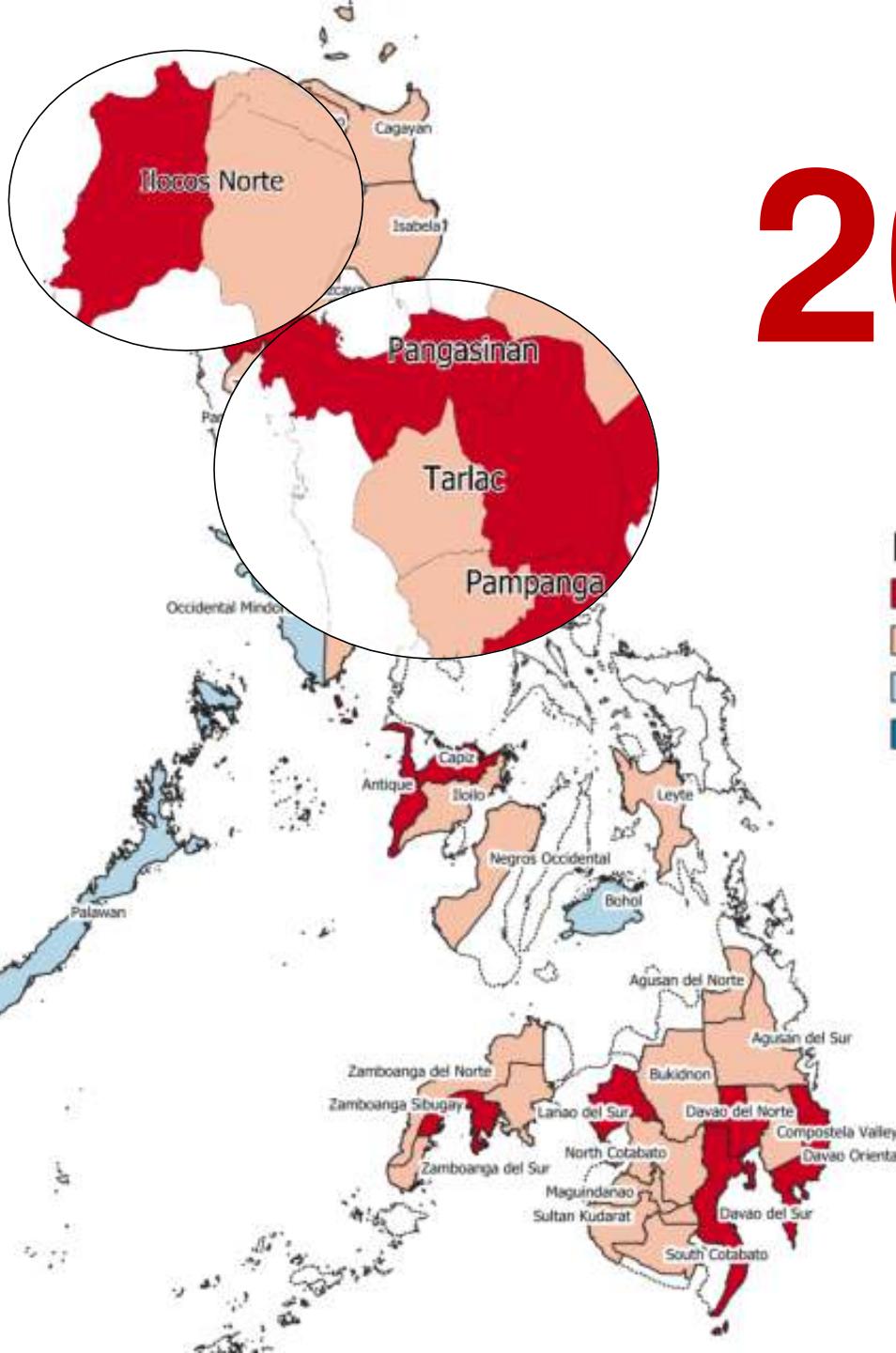
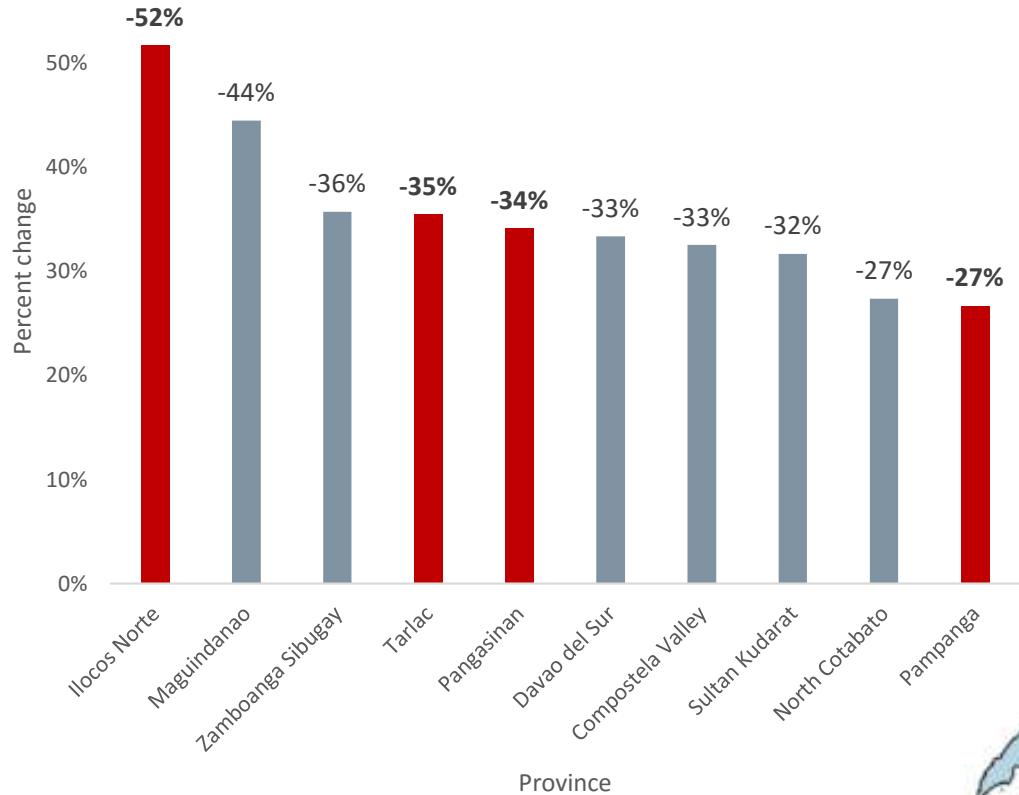
2016

Legend

- Below 25 %
25 - 50 %
50 - 75 %
Above 75 %

Ownership (%) of draft animals

60%



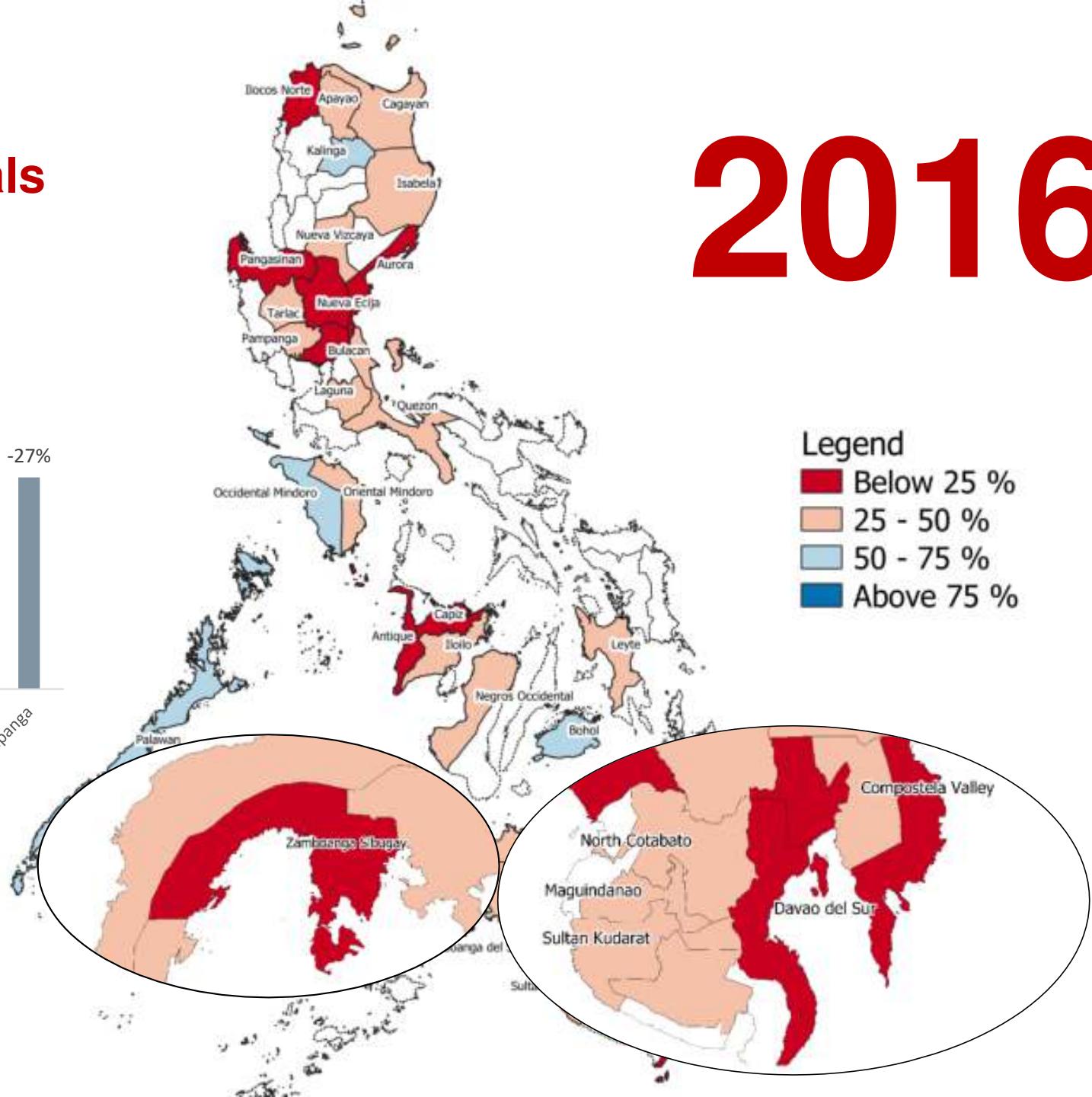
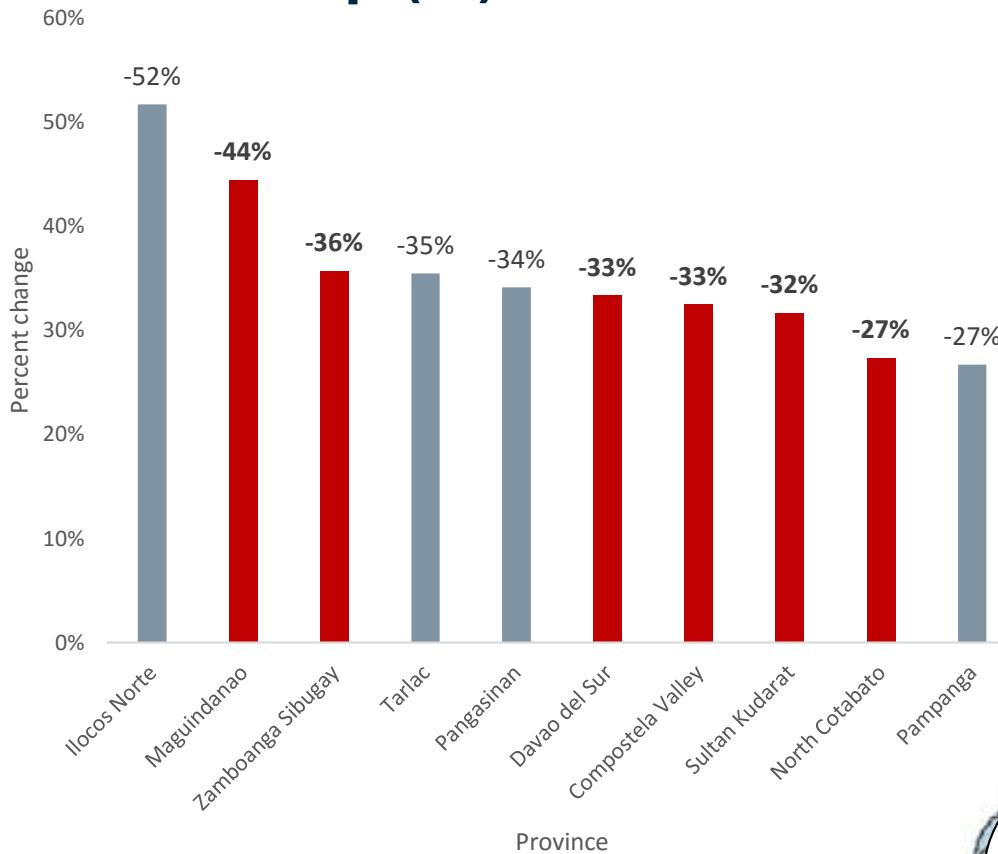
2016

Legend

- Below 25 %
25 - 50 %
50 - 75 %
Above 75 %

2016

Ownership (%) of draft animals



Farm Assets

Rice Farm land

Draft Animals

Farm Machineries

Irrigation equipment/facility

Farm tools and Implements

Post harvest facility

Farm Assets

Rice Farm land

Draft Animals

Farm Machineries

Irrigation equipment/facility

Farm tools and Implements

Post harvest facility

Farm Assets

Farm Machineries

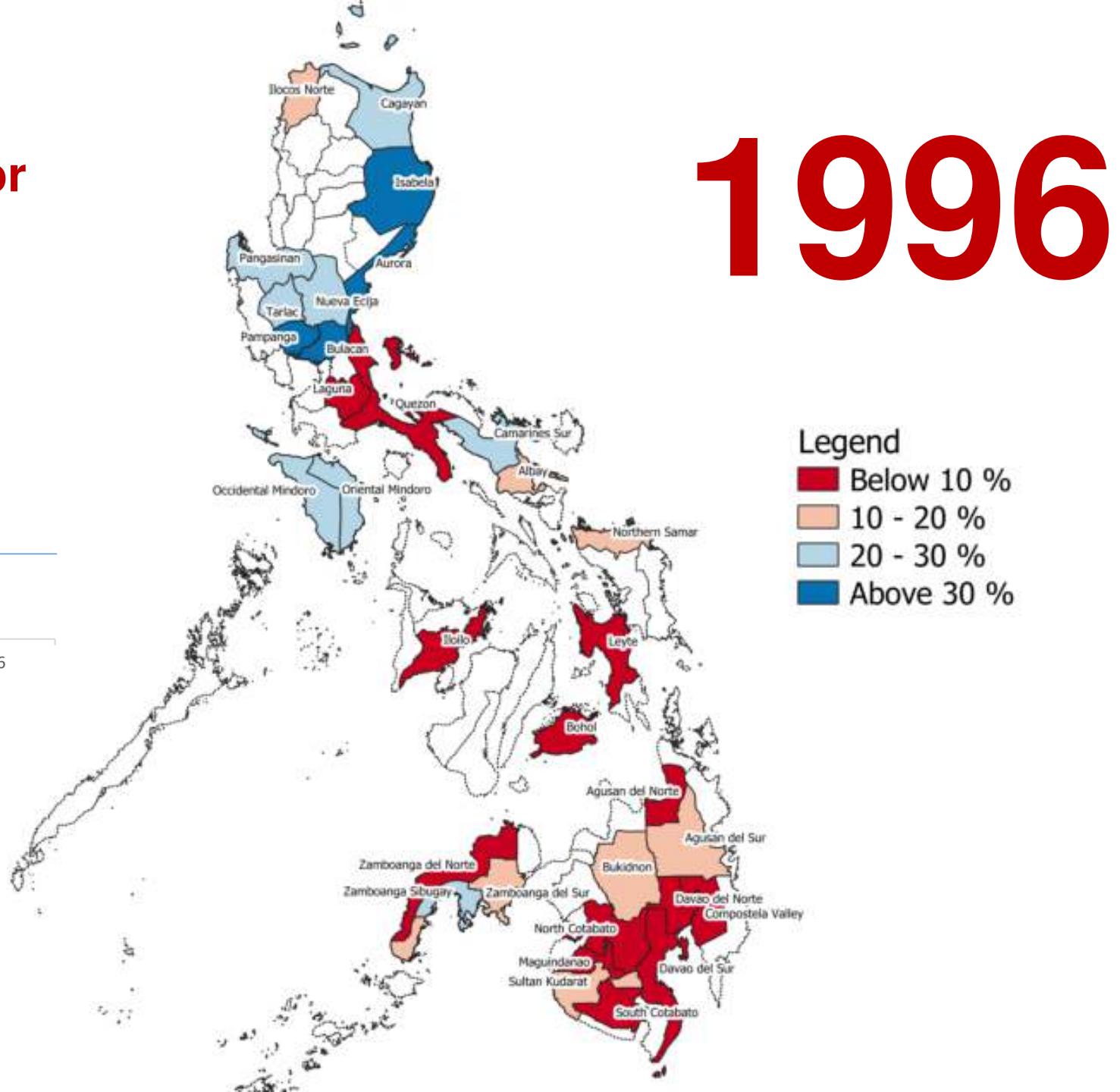
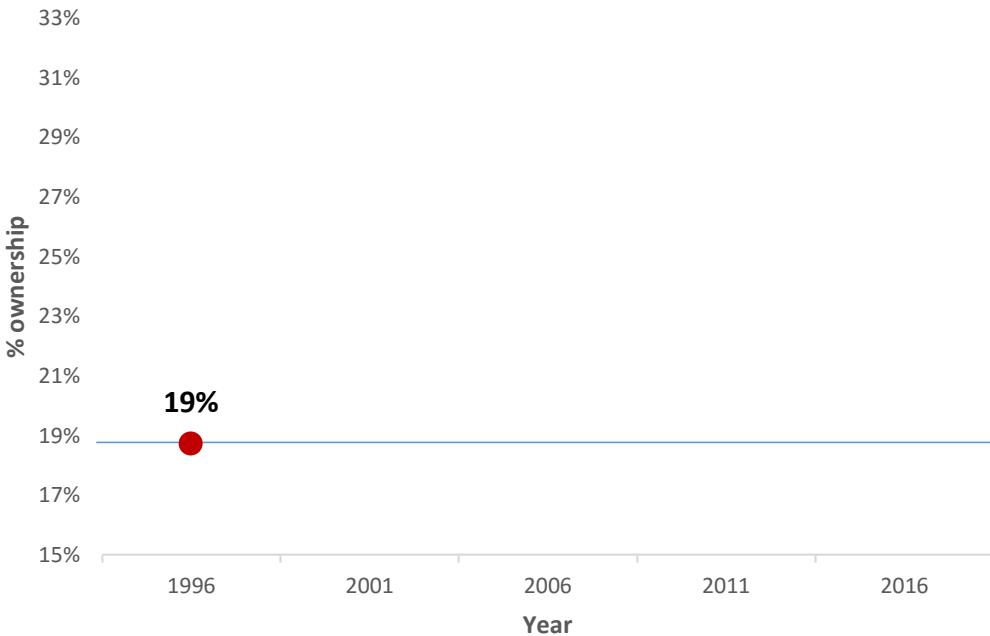
Hand tractor

Four wheel tractor

Floating tiller (Turtle)

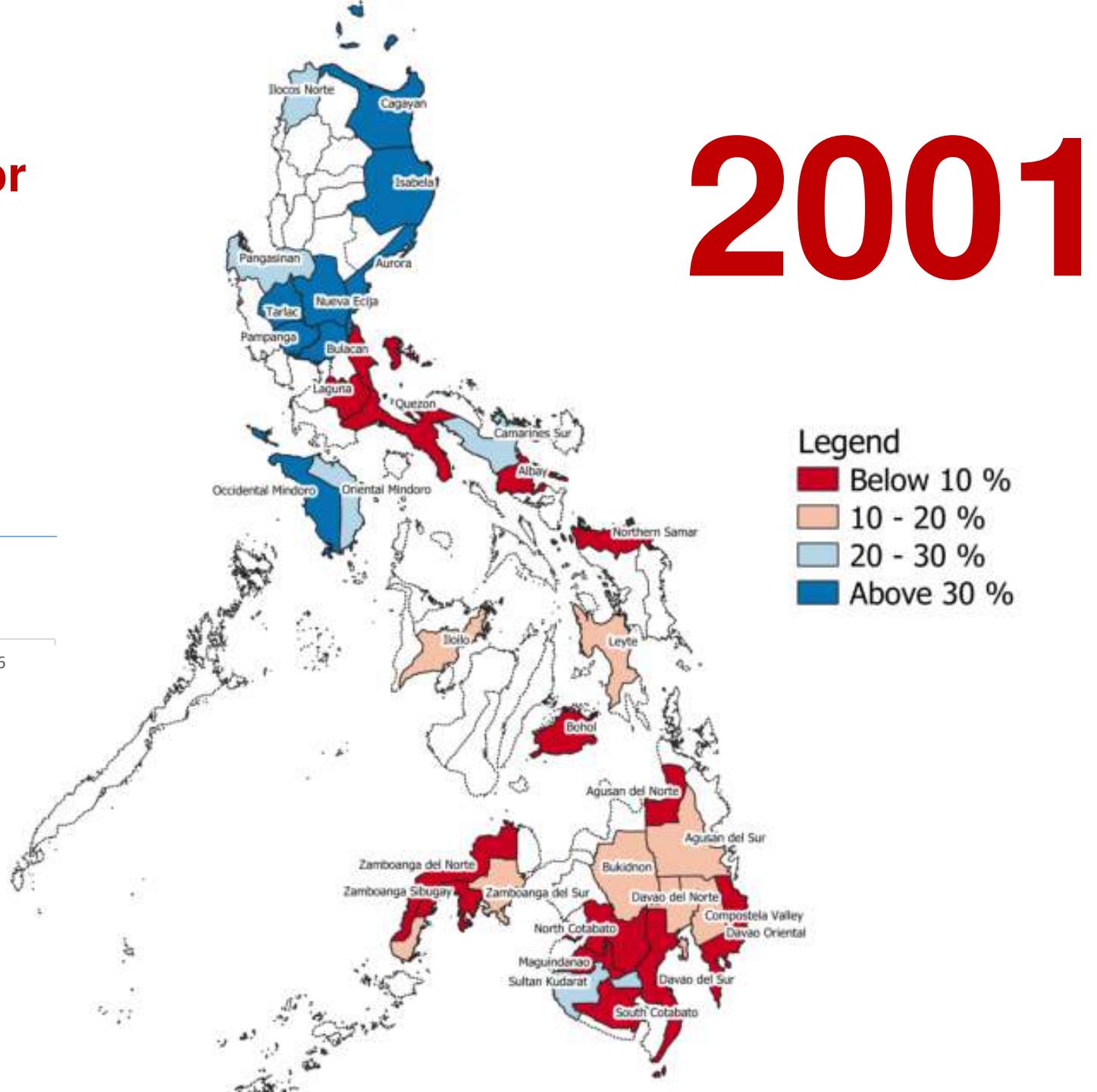
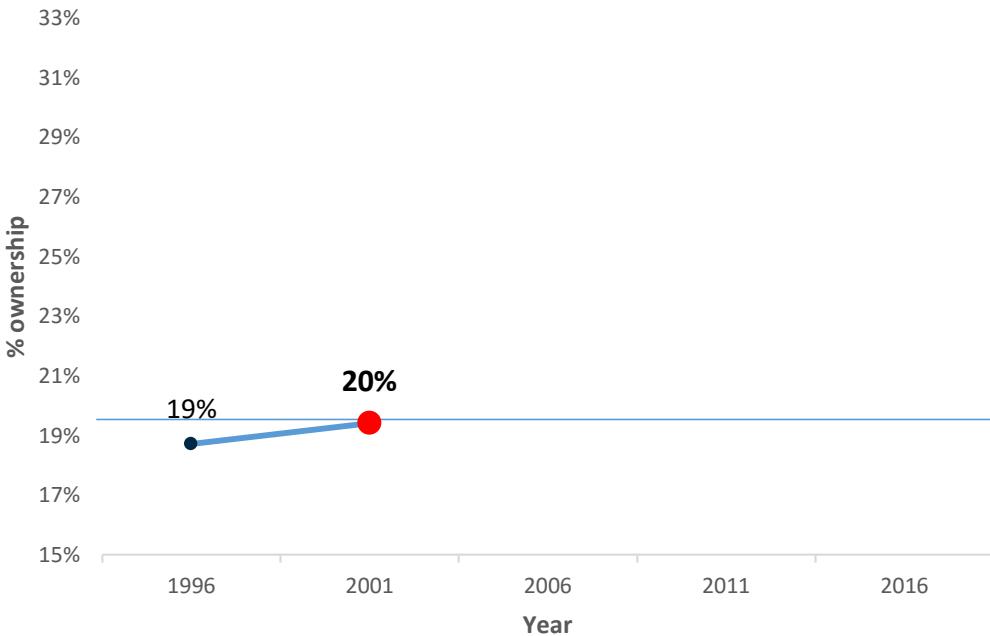
Thresher

Ownership (%) of hand tractor



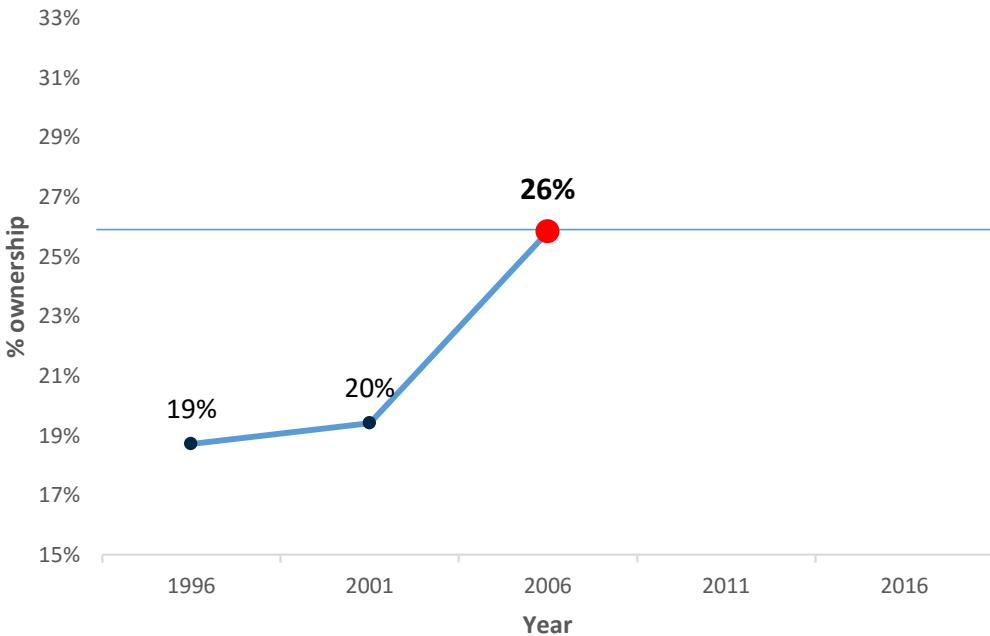
1996

Ownership (%) of hand tractor

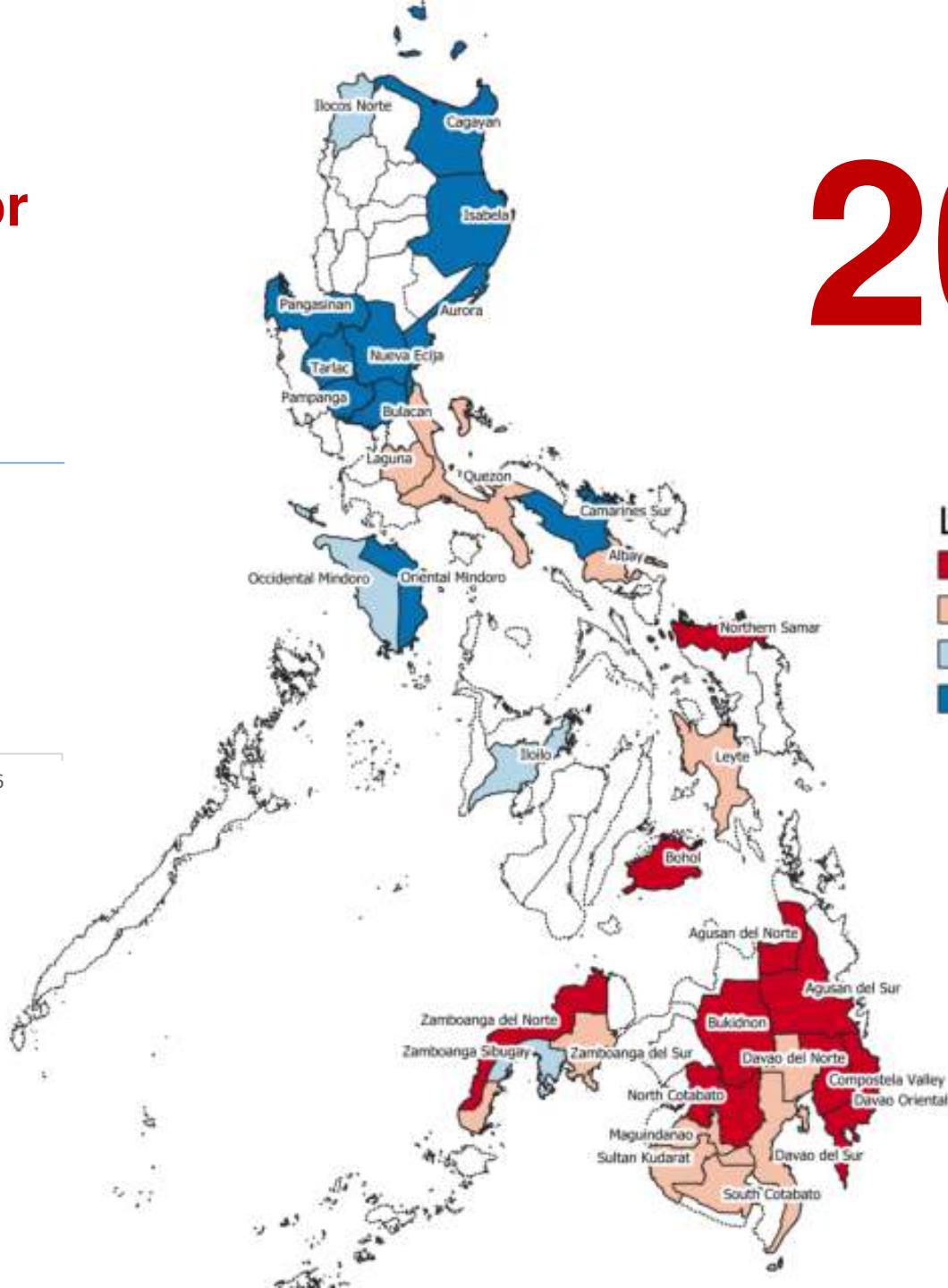


2001

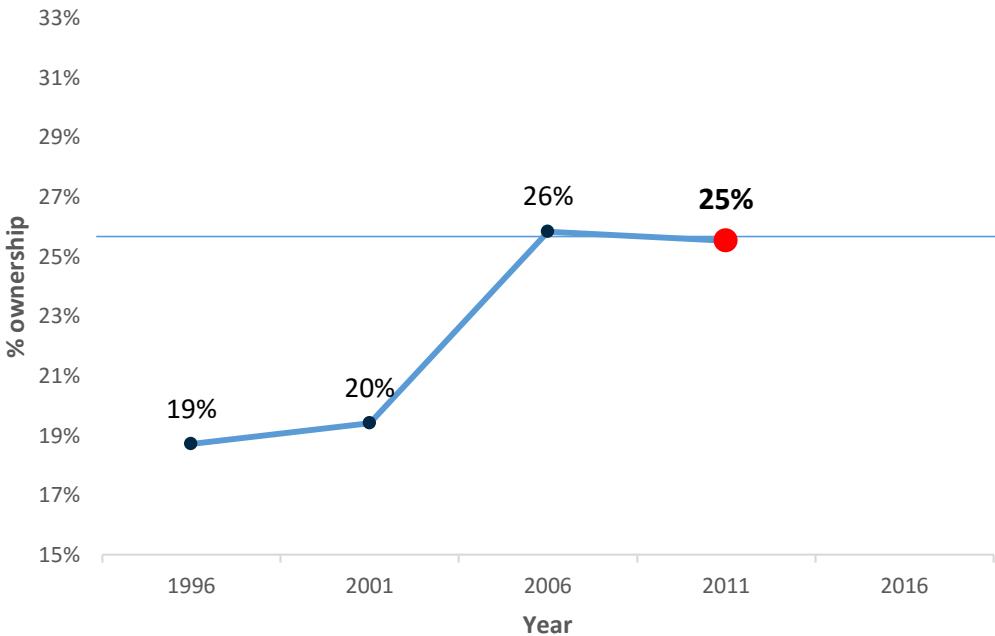
Ownership (%) of hand tractor



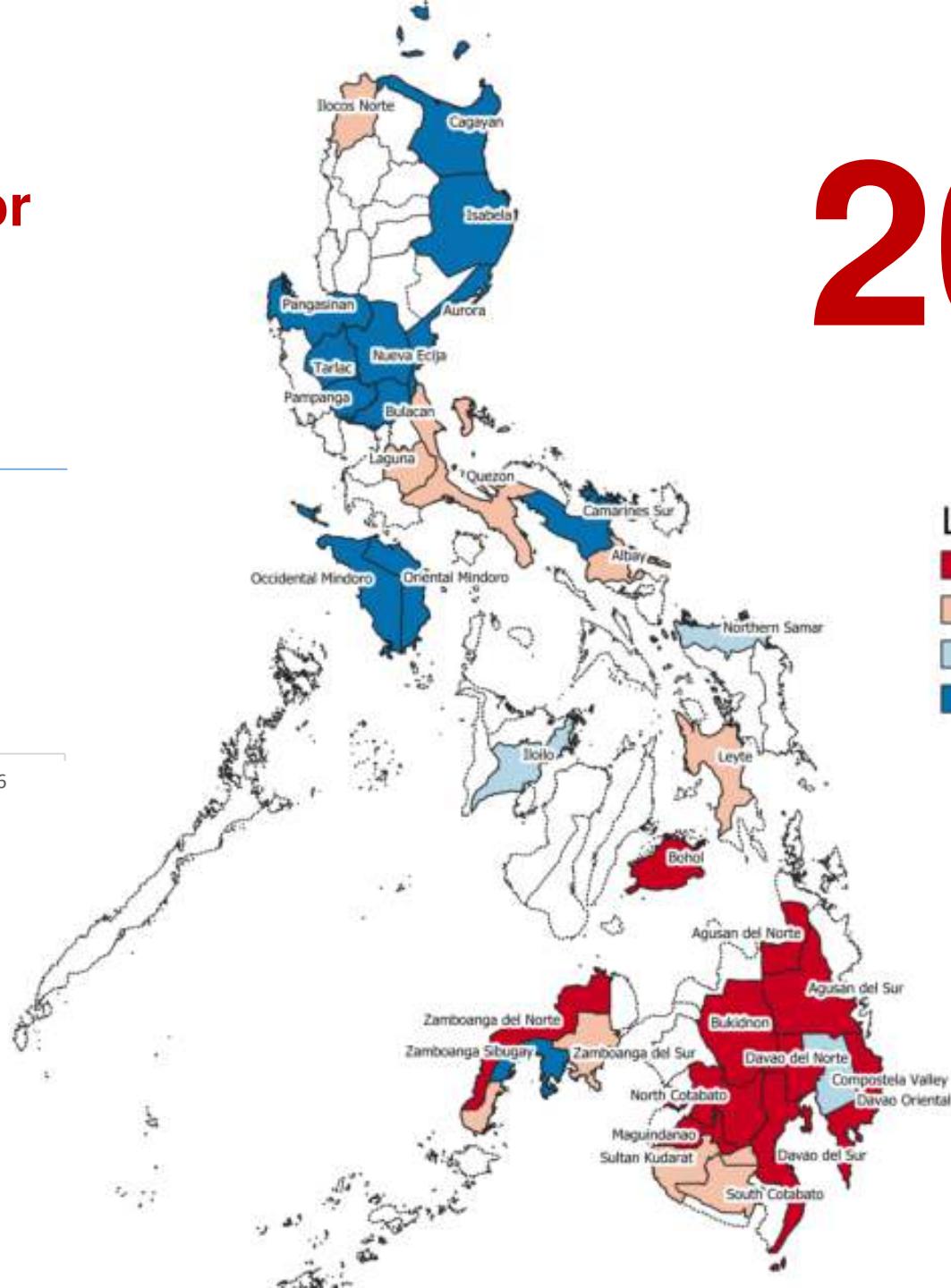
2006



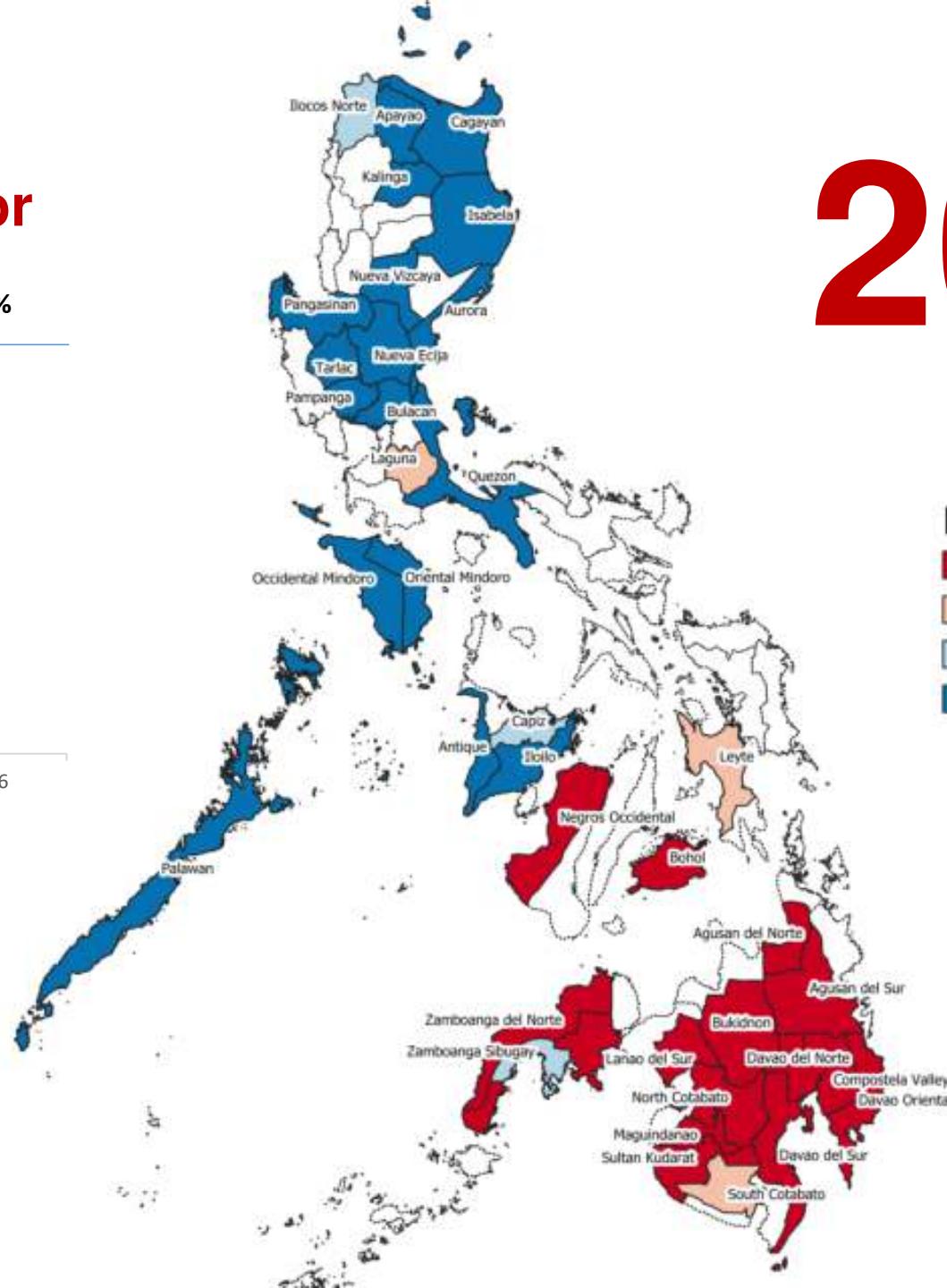
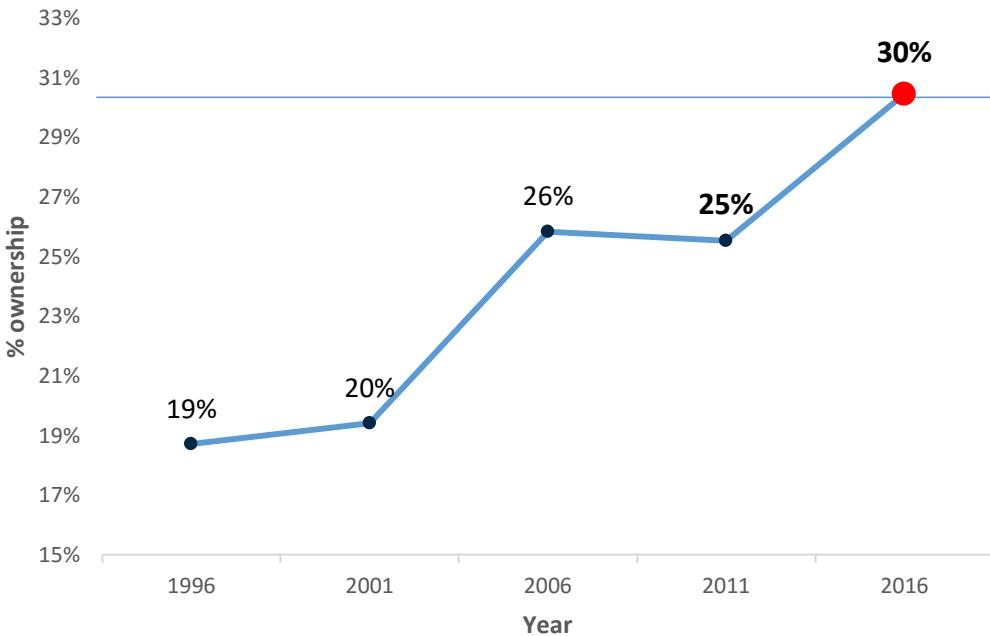
Ownership (%) of hand tractor



2011



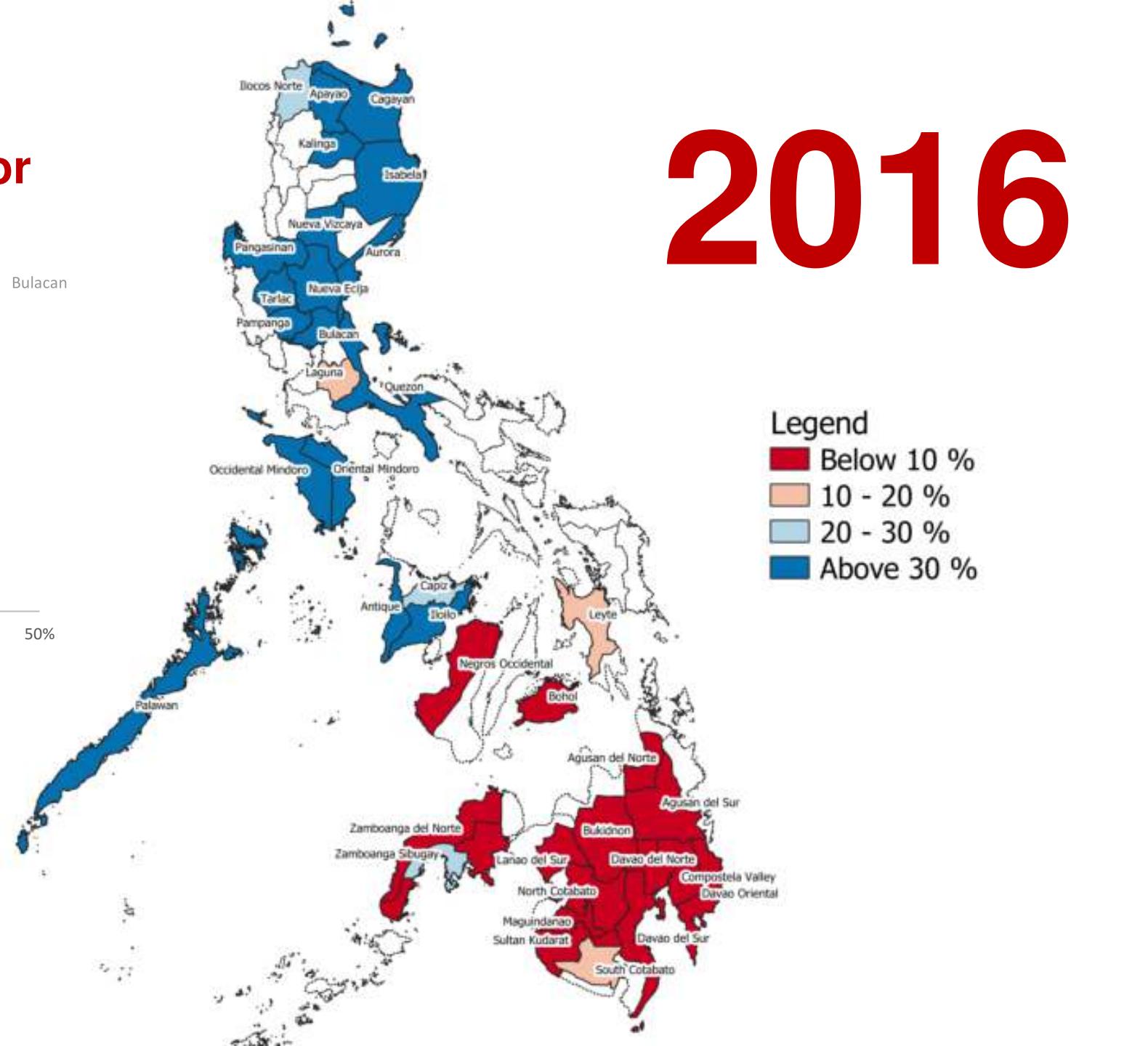
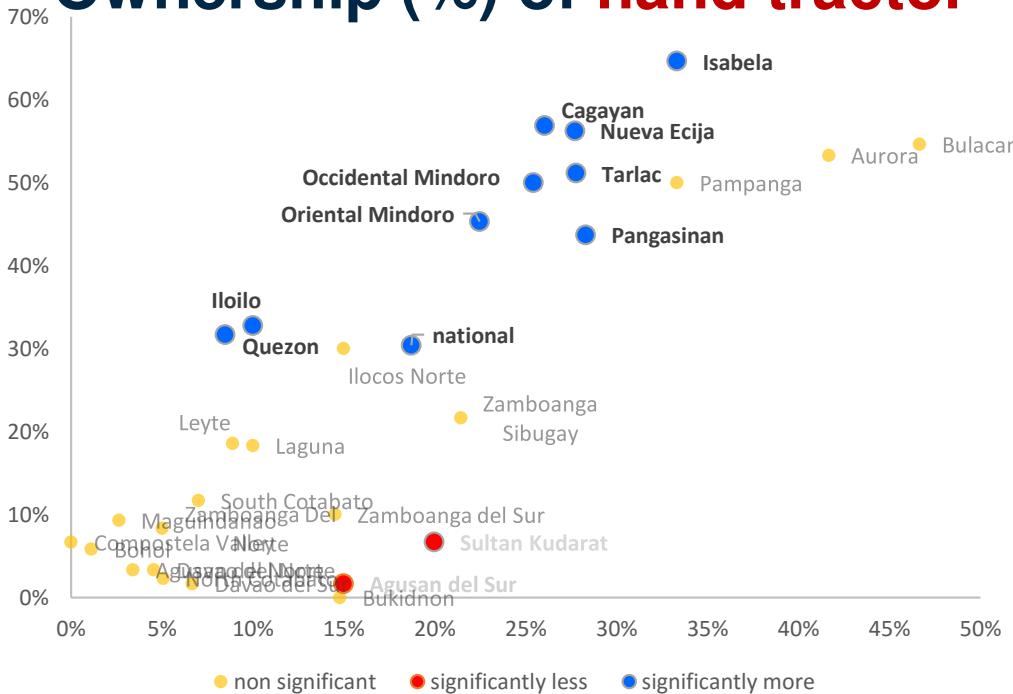
Ownership (%) of hand tractor



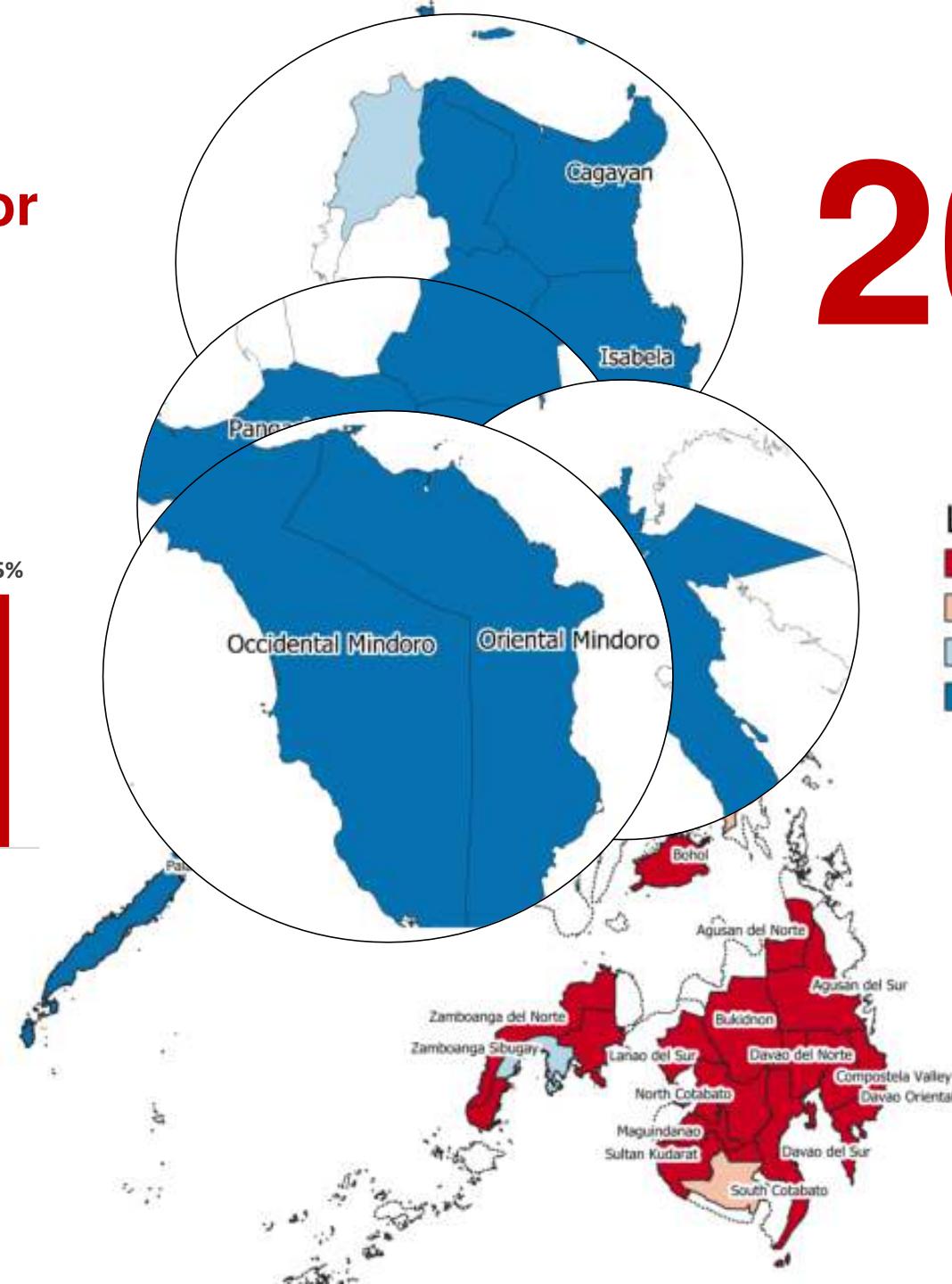
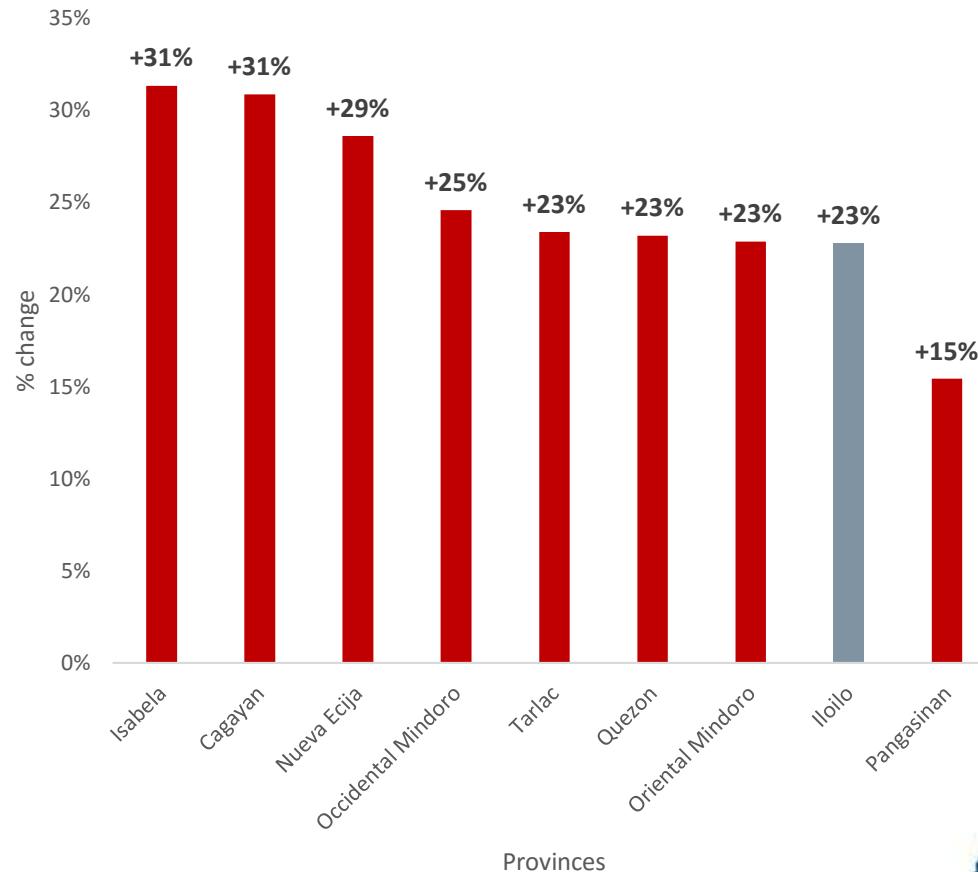
2016

2016

Ownership (%) of hand tractor

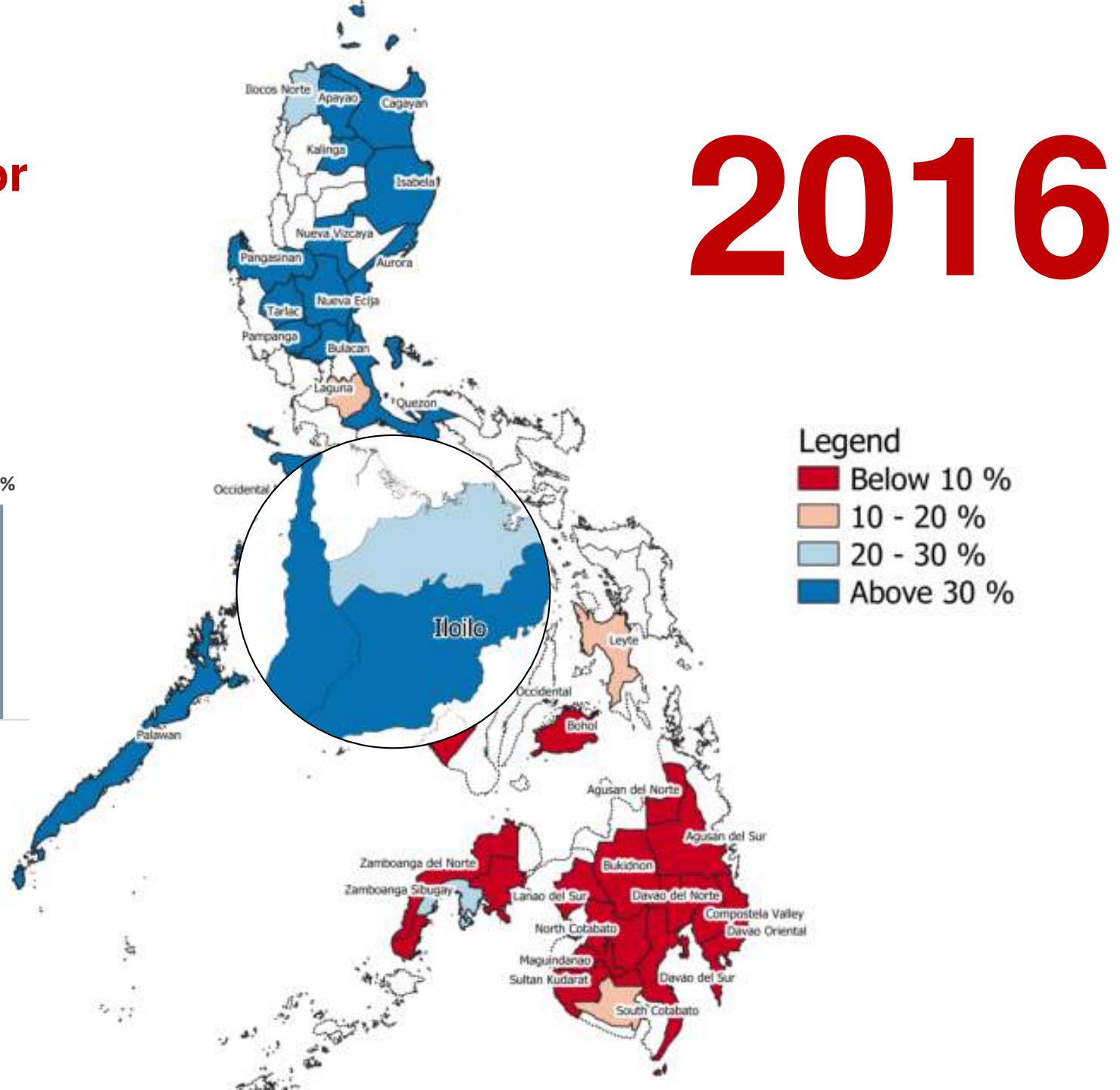
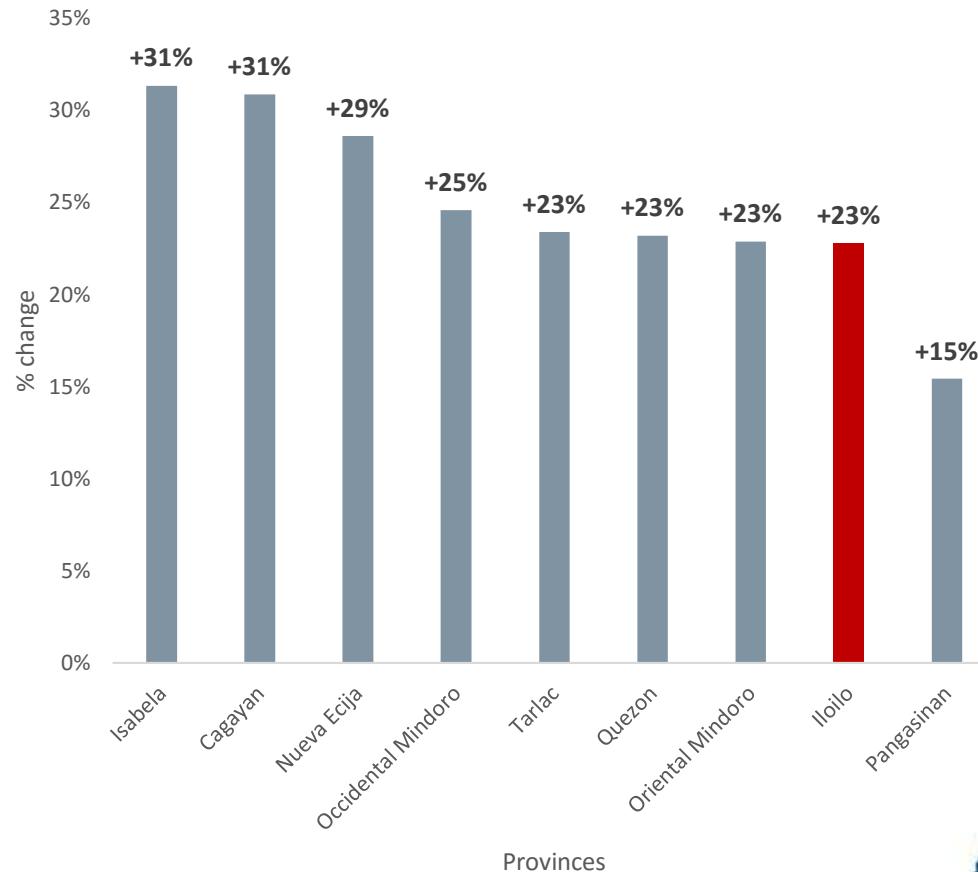


Ownership (%) of hand tractor



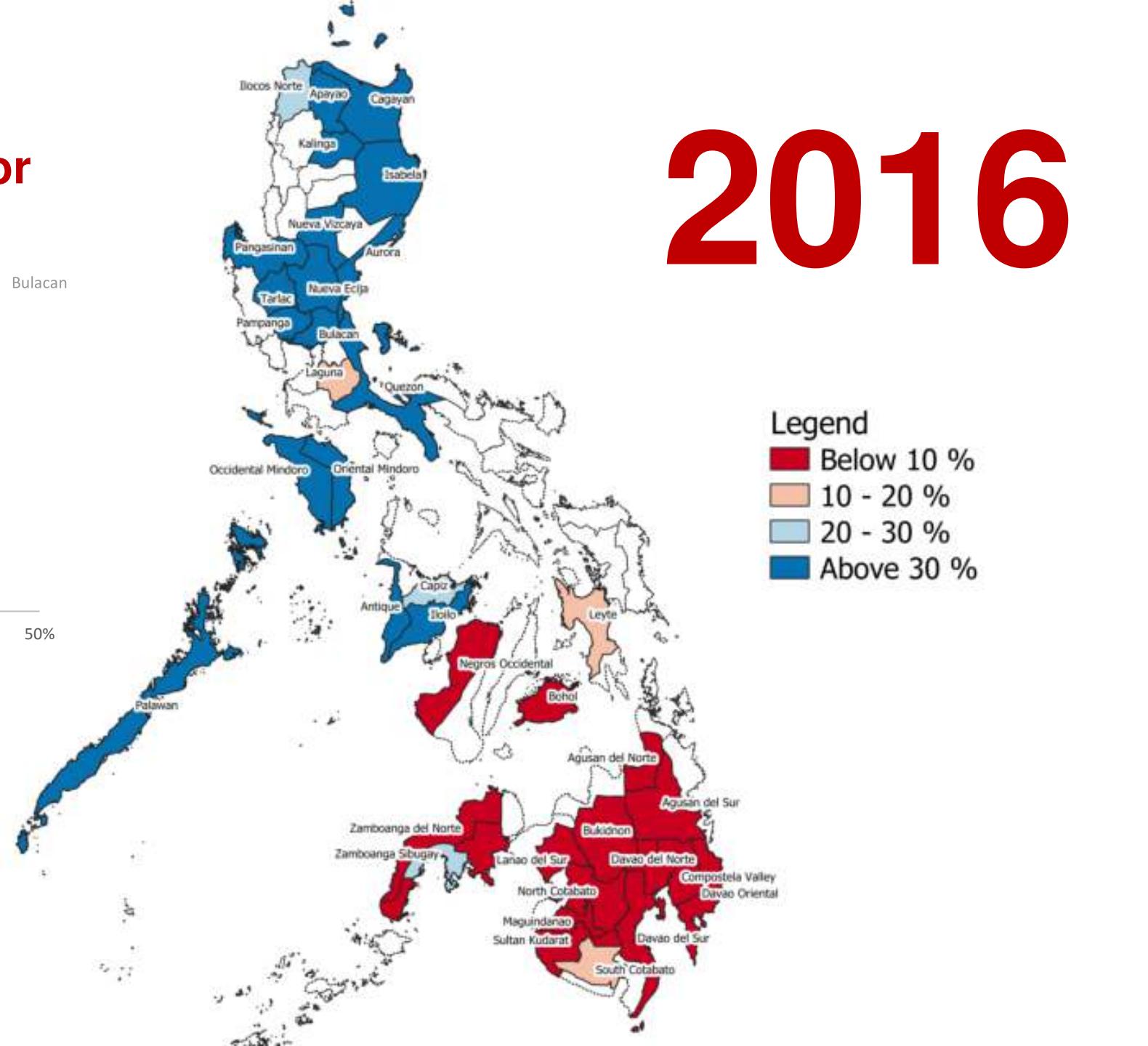
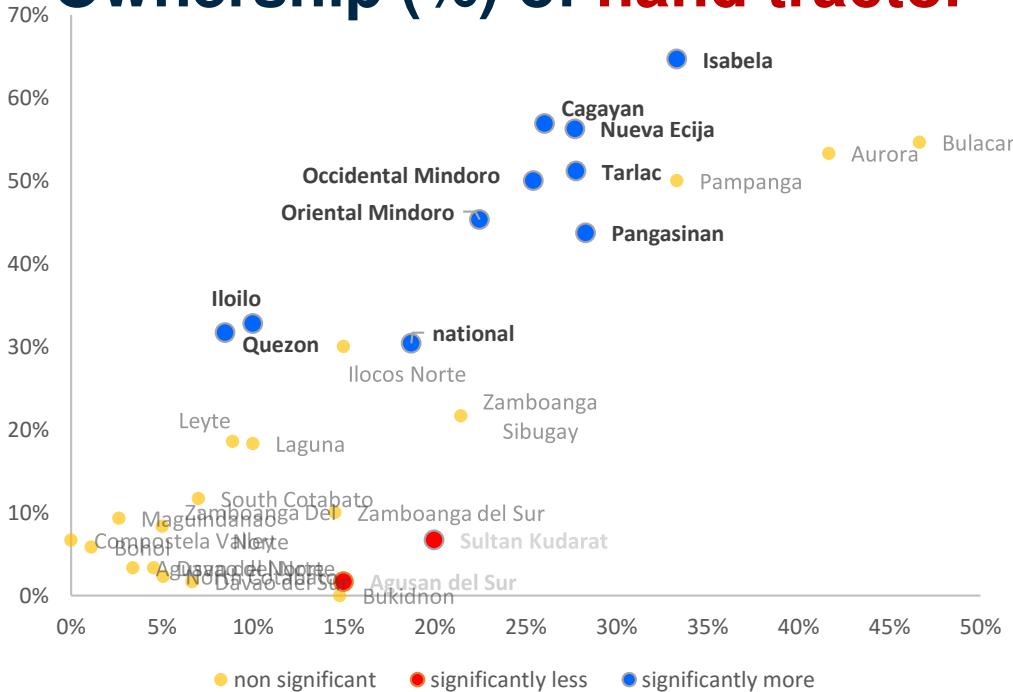
2016

Ownership (%) of hand tractor



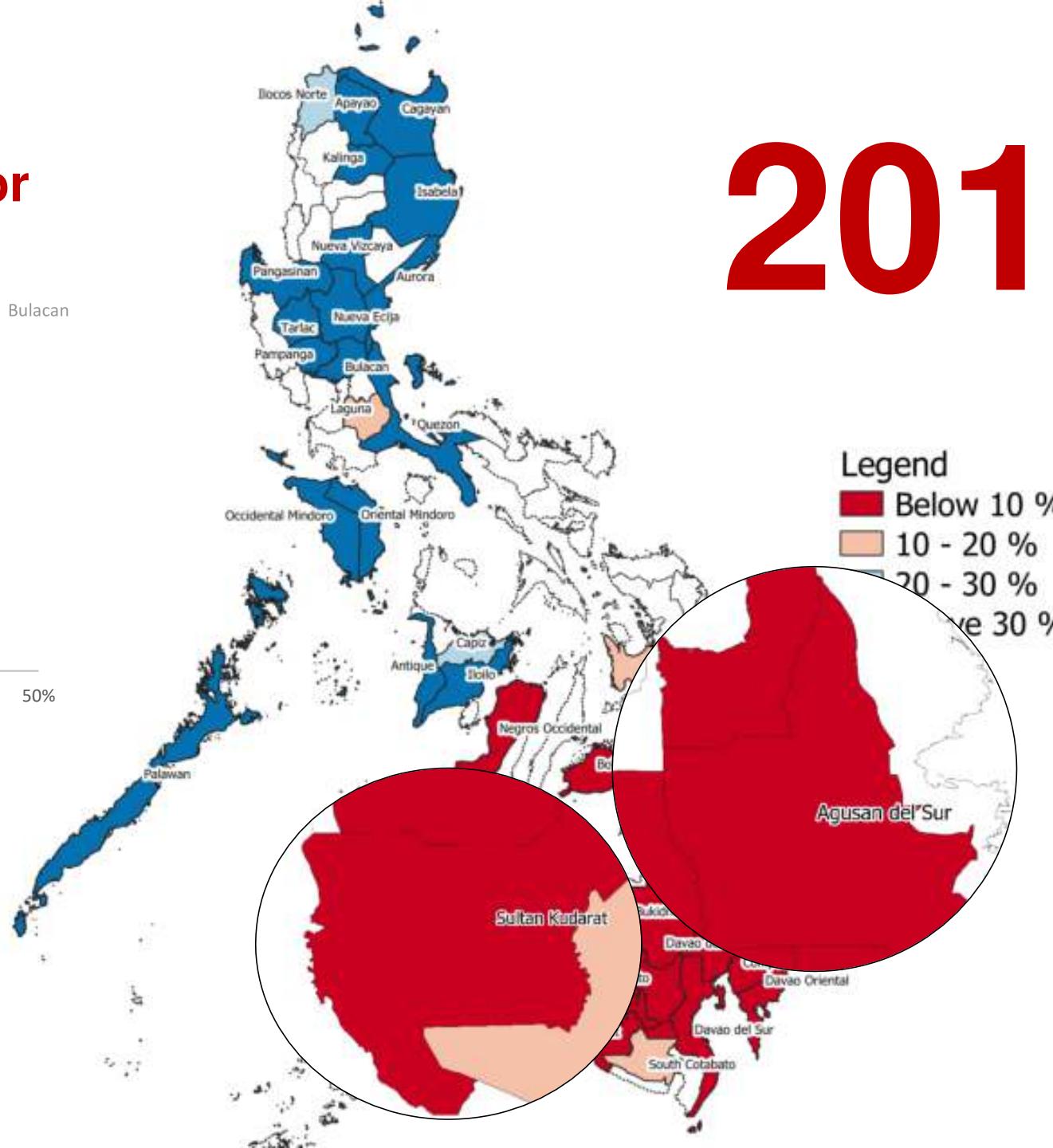
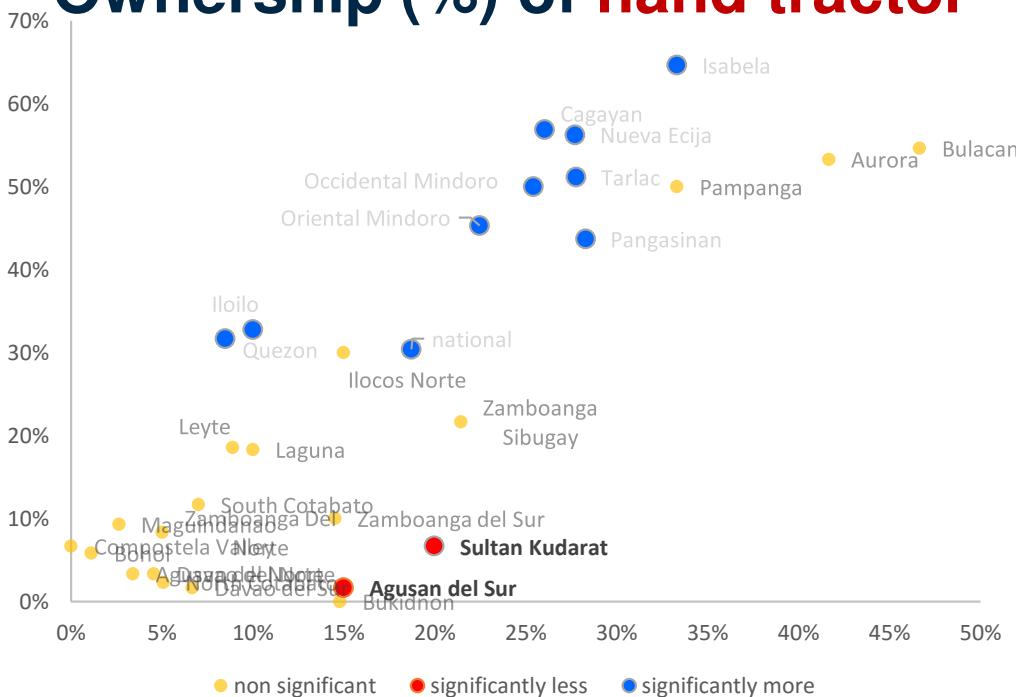
2016

Ownership (%) of hand tractor



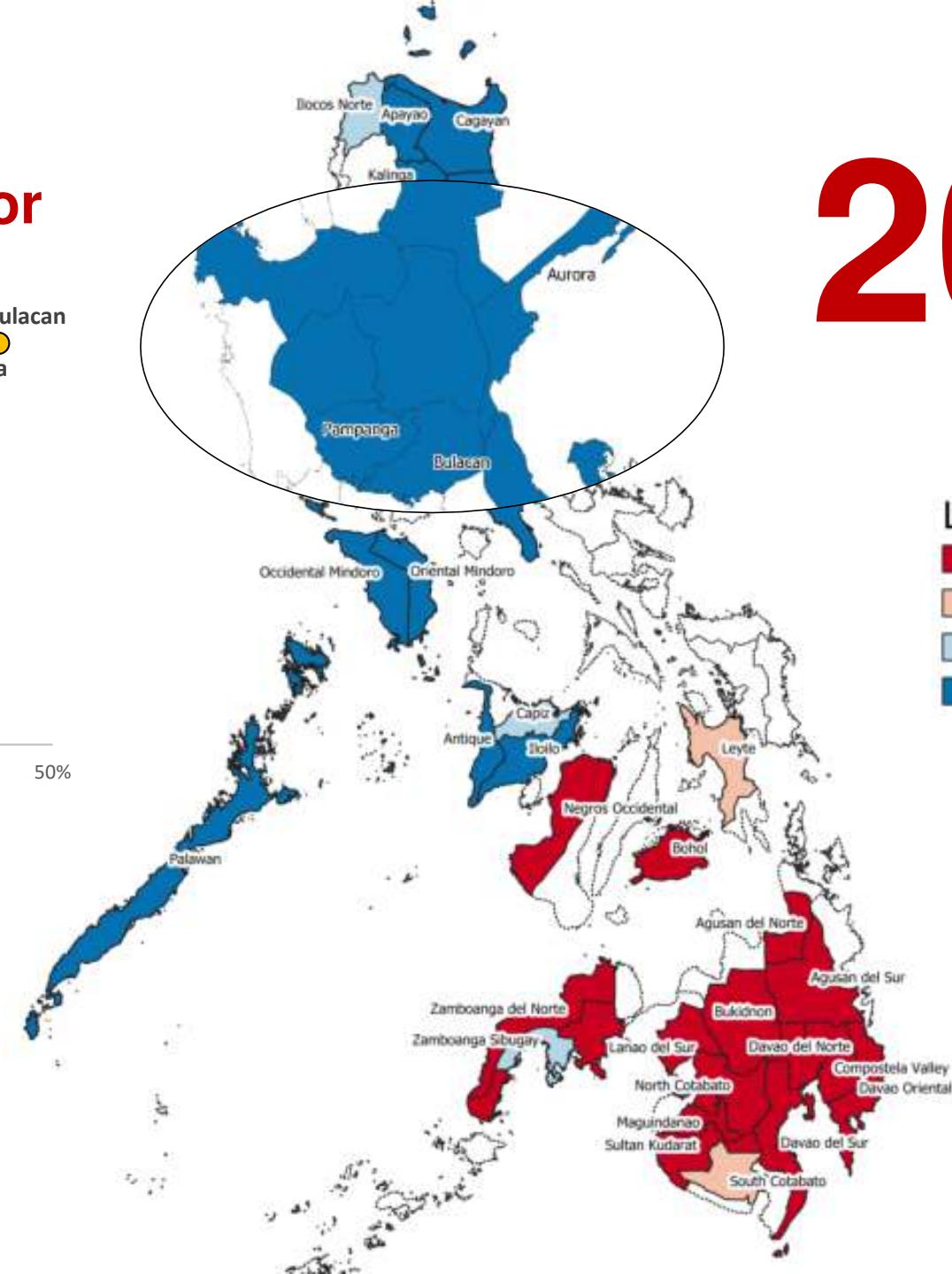
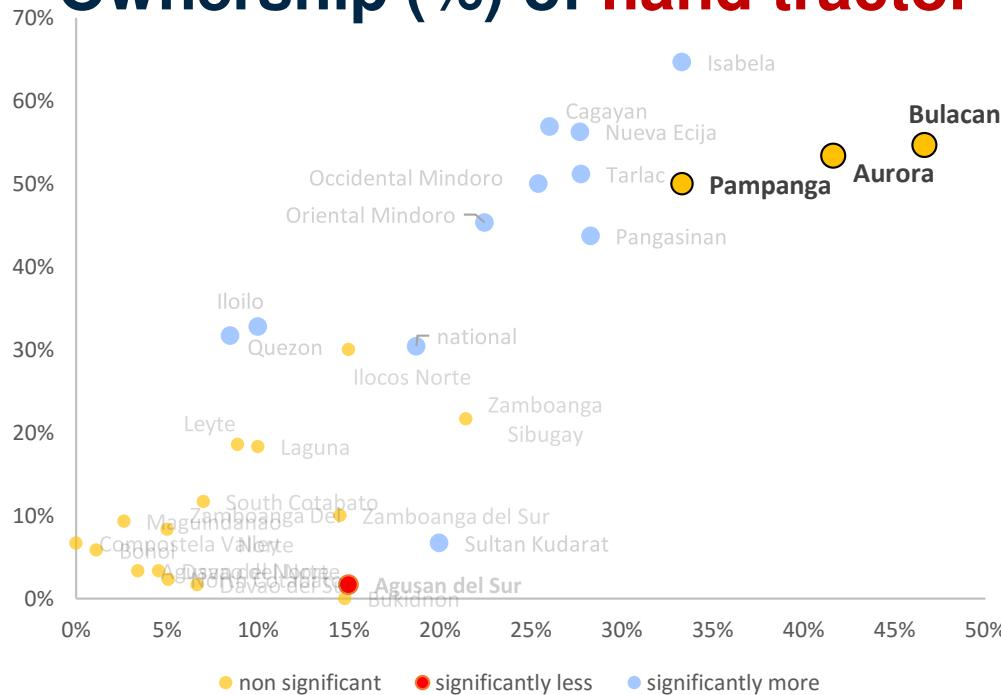
2016

Ownership (%) of hand tractor



2016

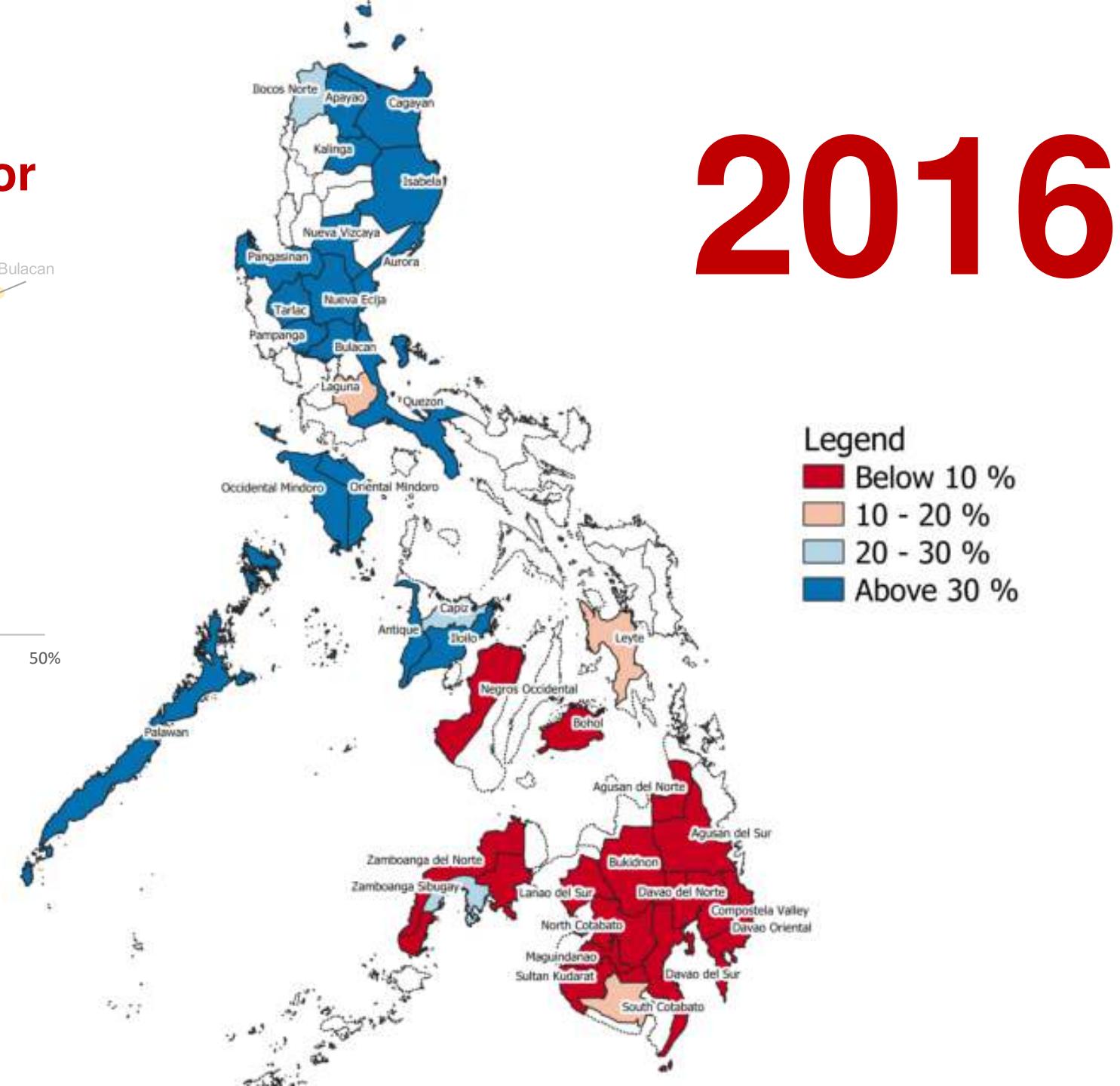
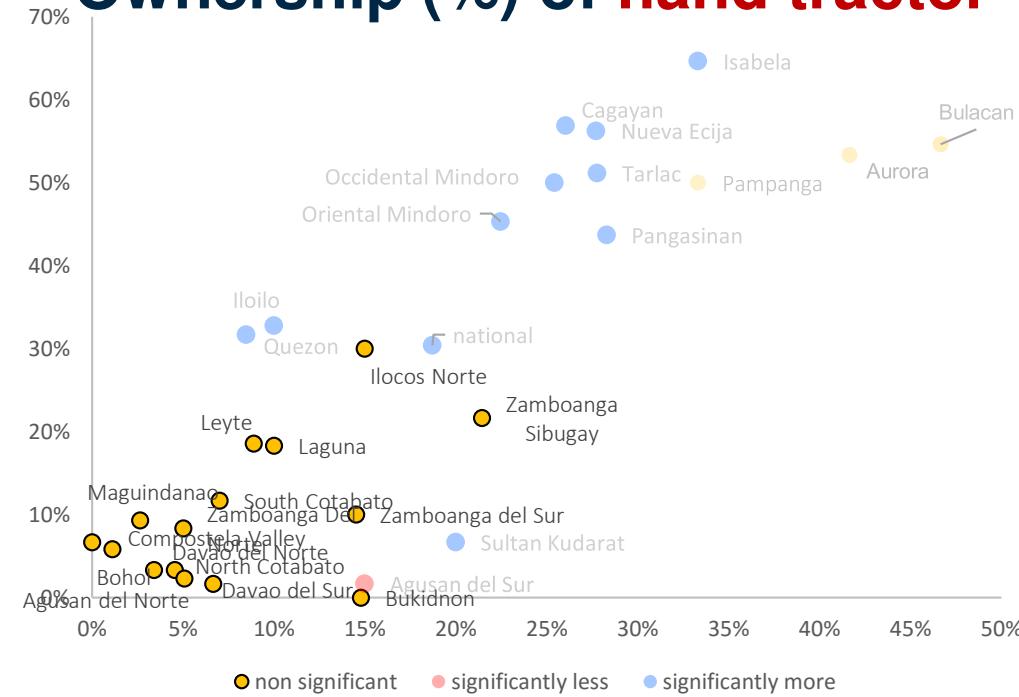
Ownership (%) of hand tractor



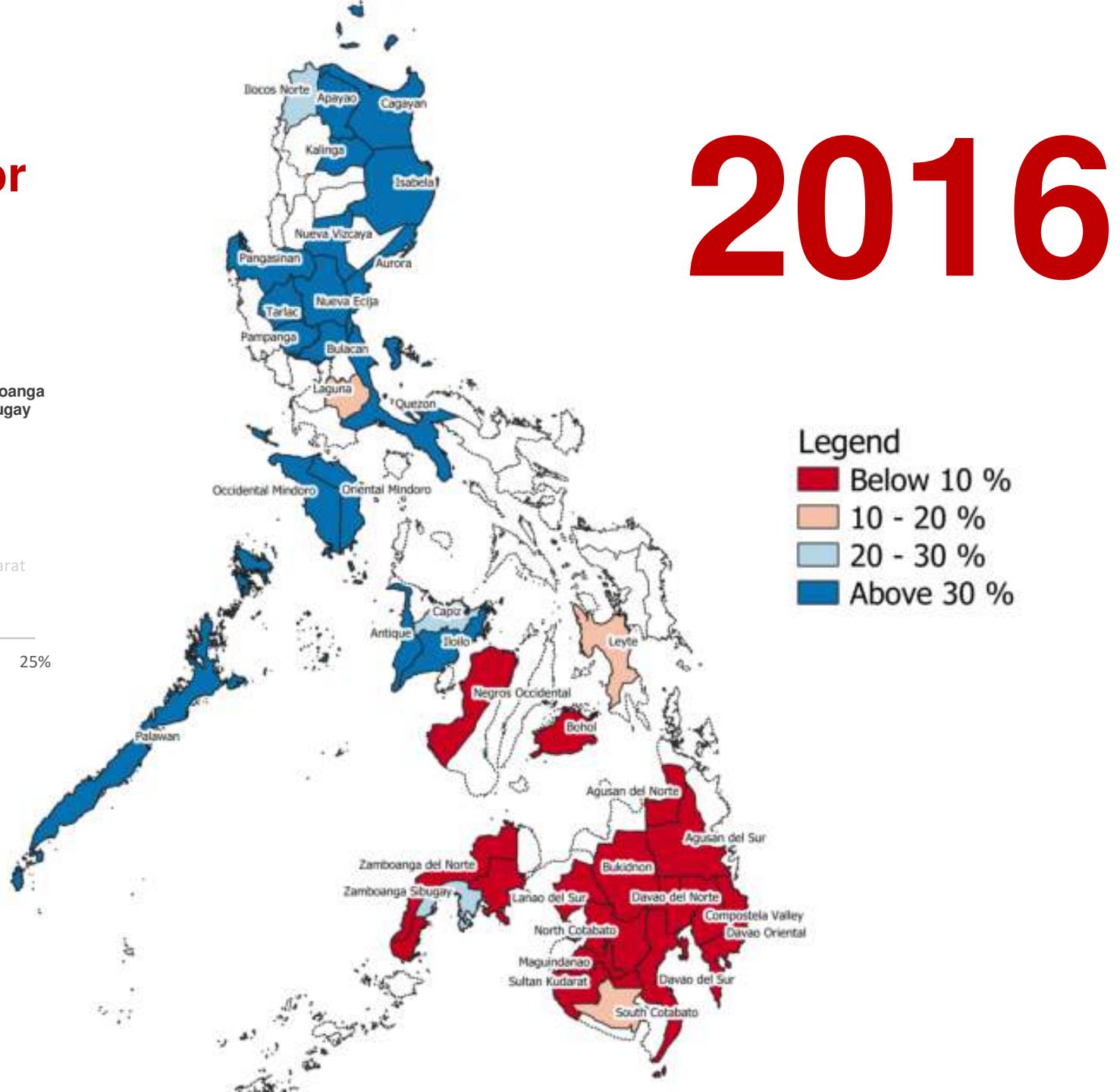
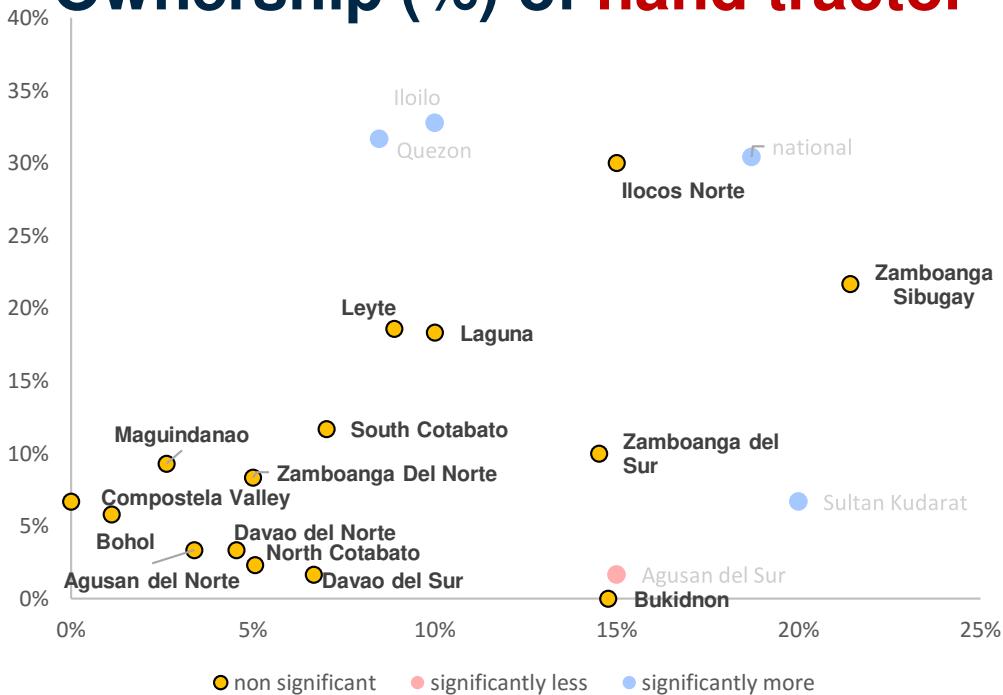
Legend

- Below 10 %
- 10 - 20 %
- 20 - 30 %
- Above 30 %

Ownership (%) of hand tractor



Ownership (%) of hand tractor



2016

Farm Assets

Farm Machineries

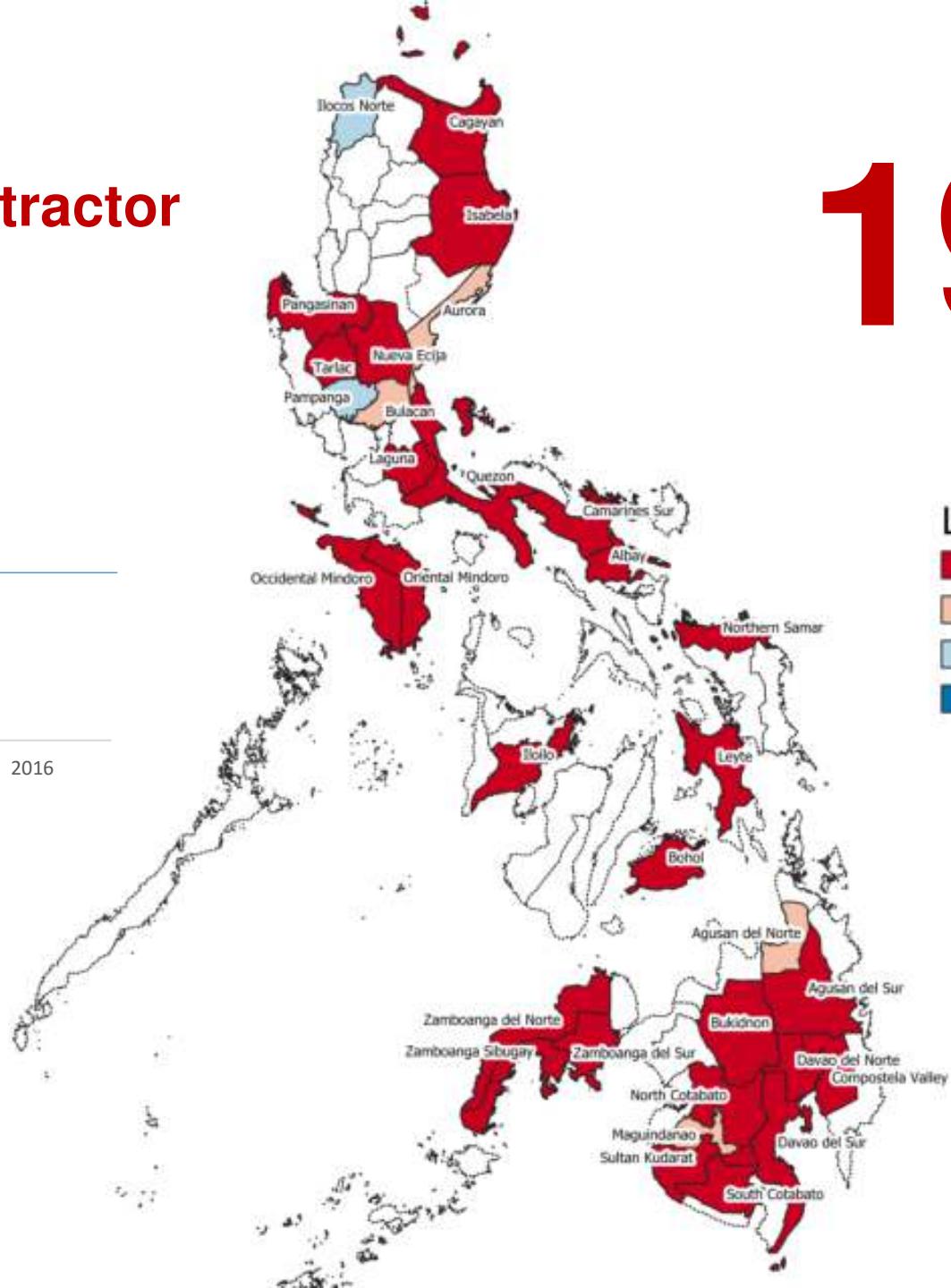
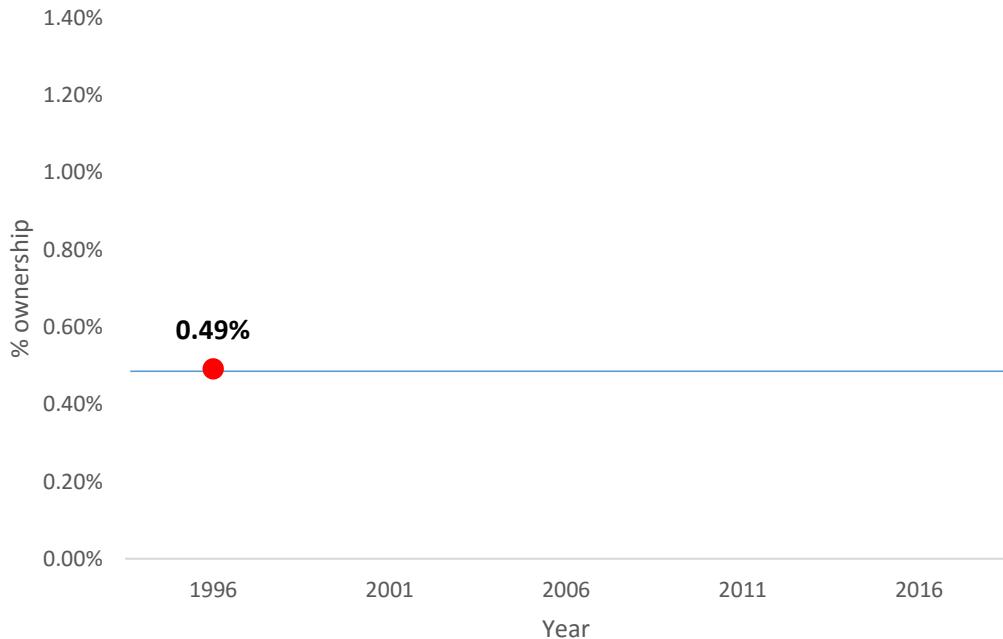
Four wheel tractor

Floating tiller (Turtle)

Thresher

Hand tractor

Ownership (%) of four wheel tractor

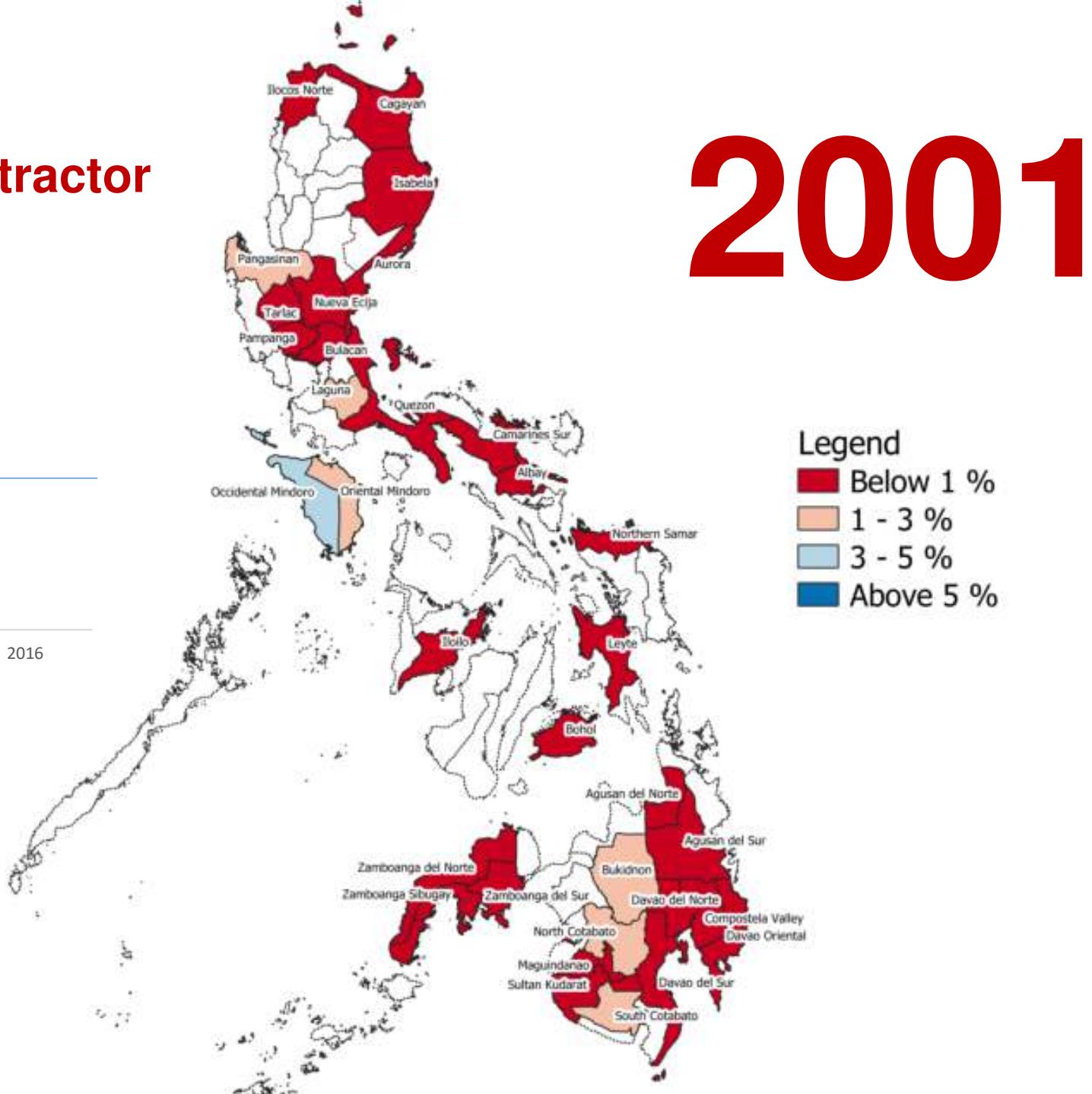
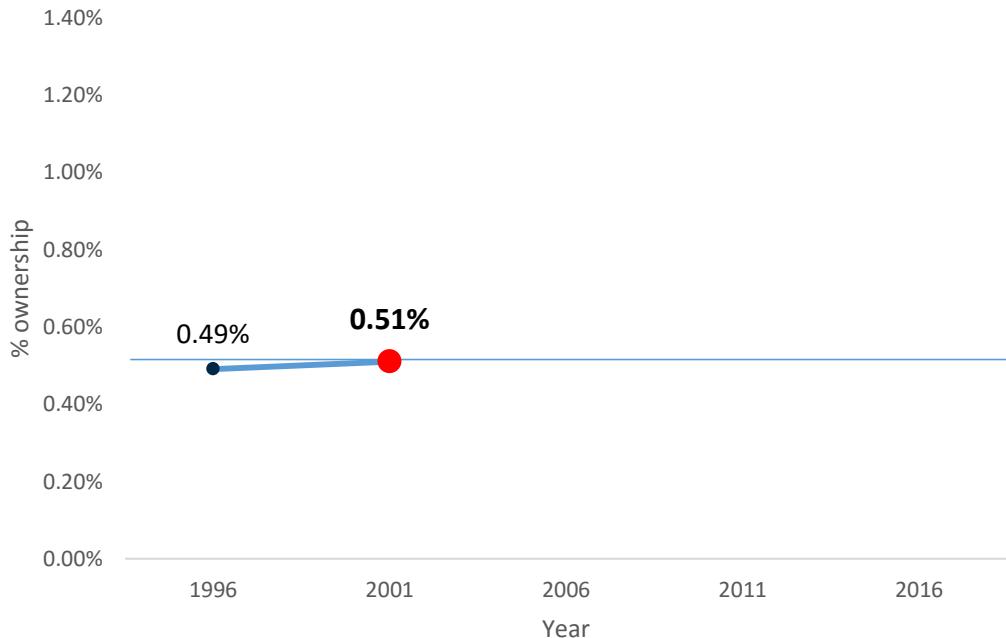


1996

Legend

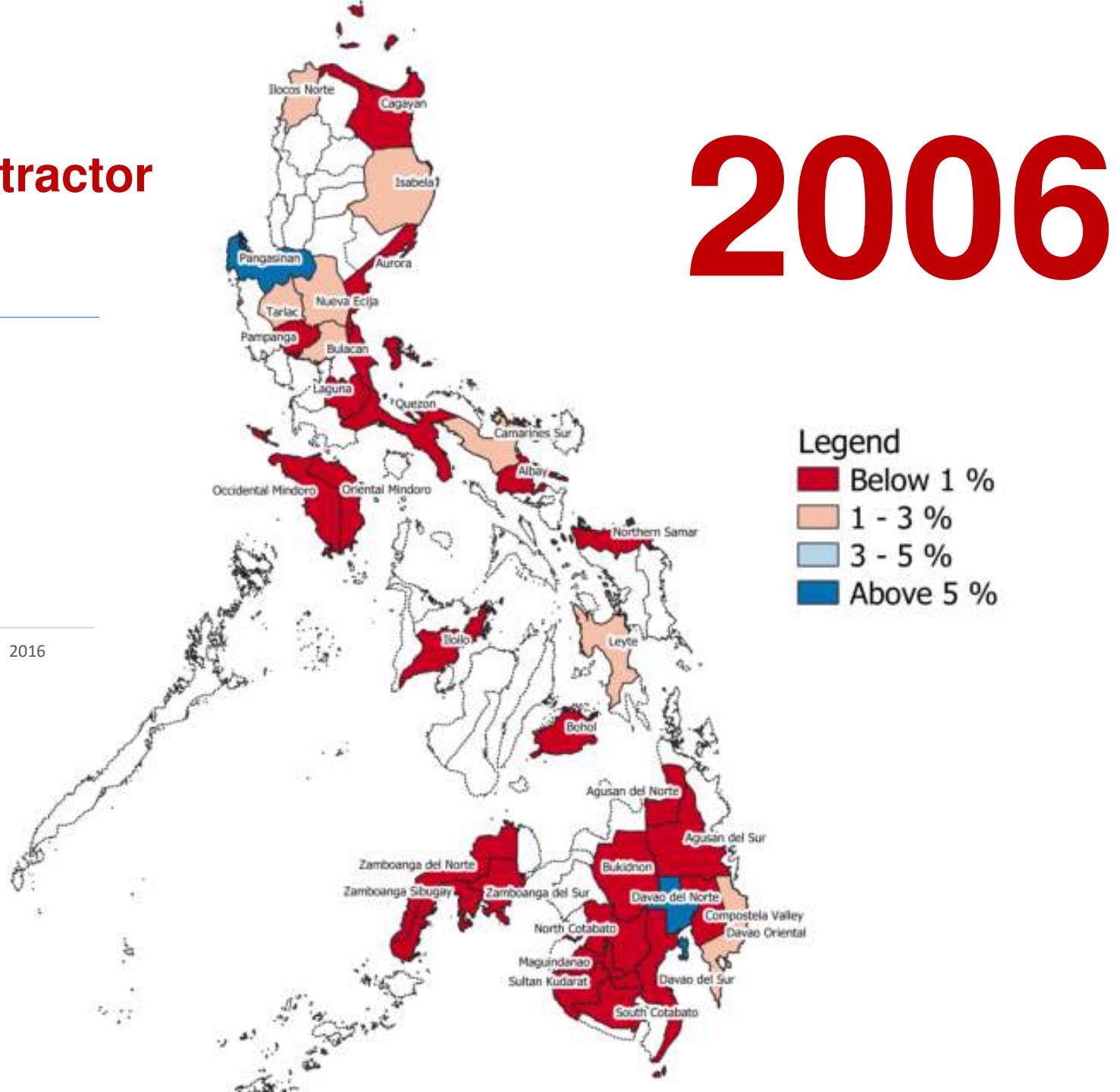
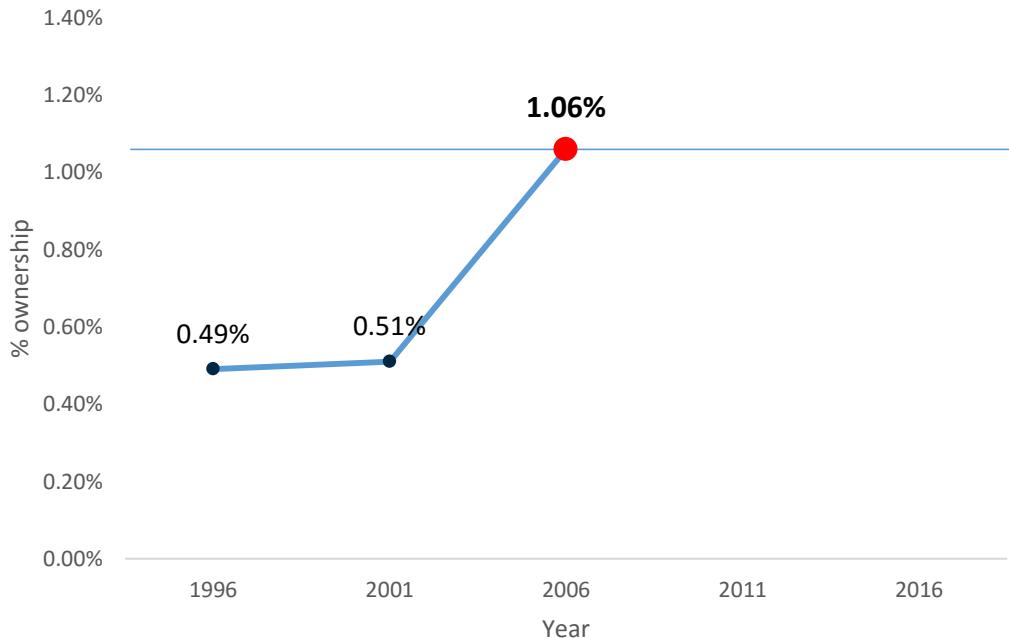
- Below 1 %
- 1 - 3 %
- 3 - 5 %
- Above 5 %

Ownership (%) of four wheel tractor



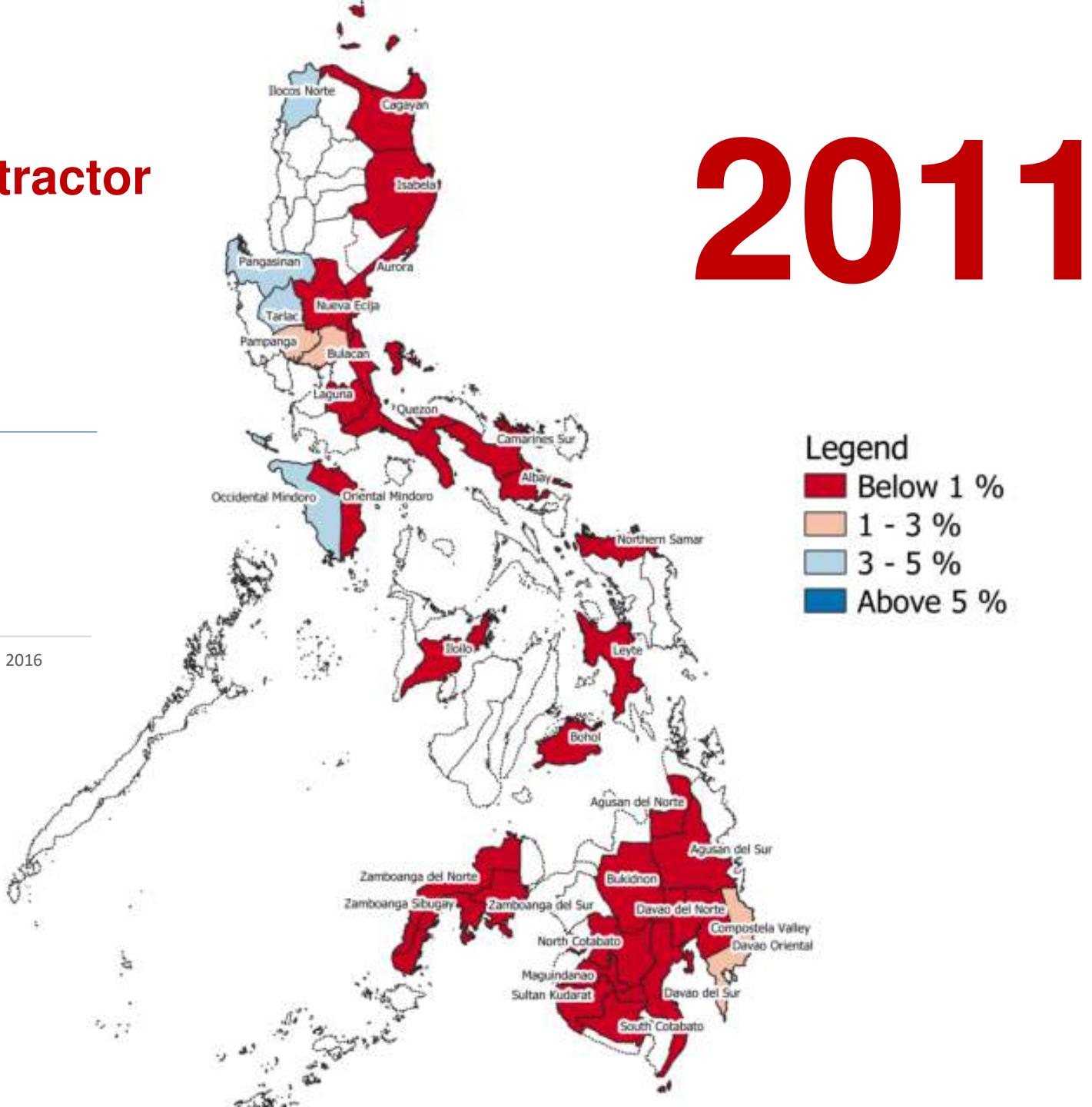
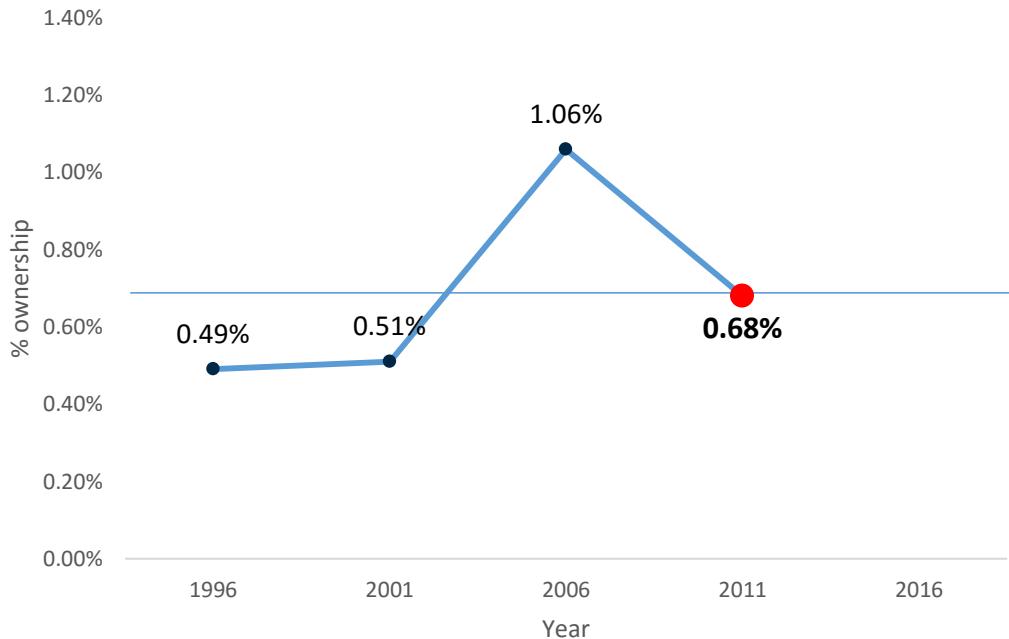
2001

Ownership (%) of four wheel tractor



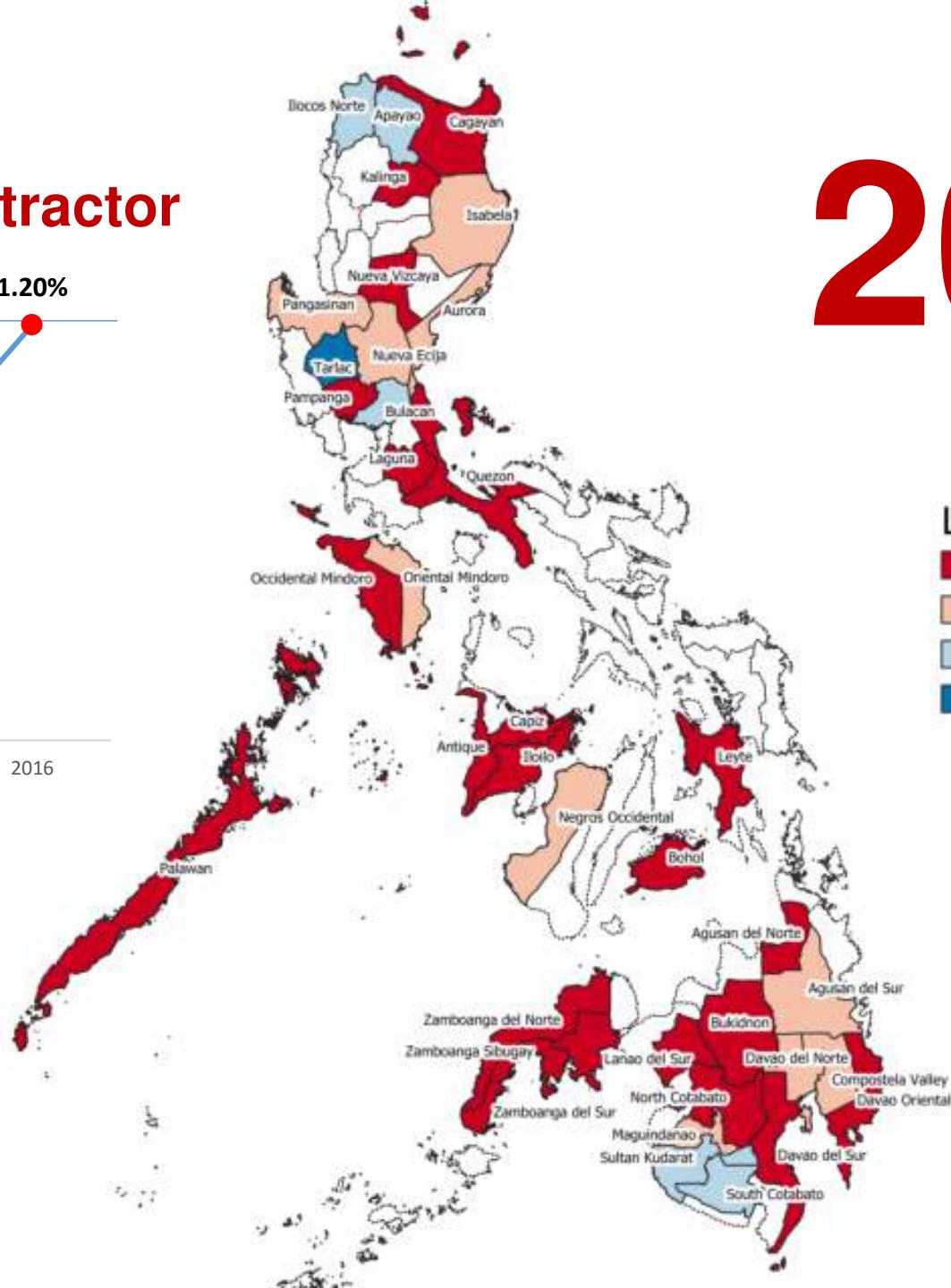
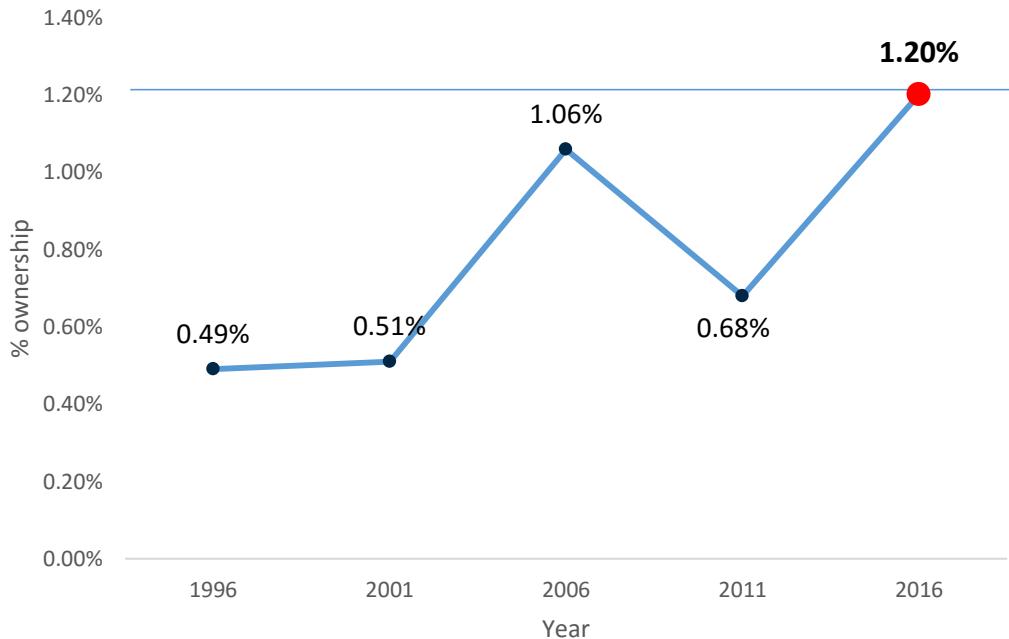
2006

Ownership (%) of four wheel tractor



2011

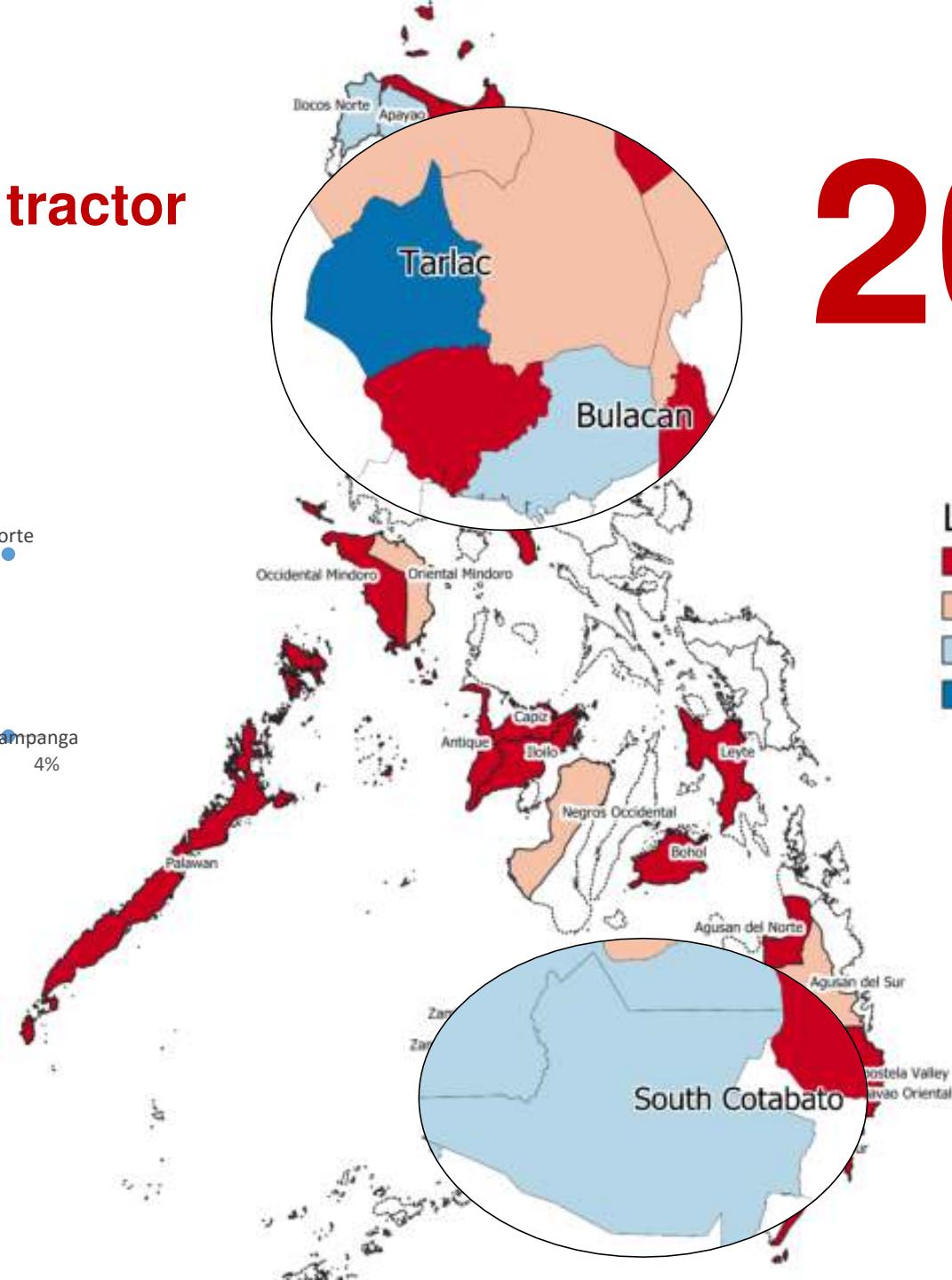
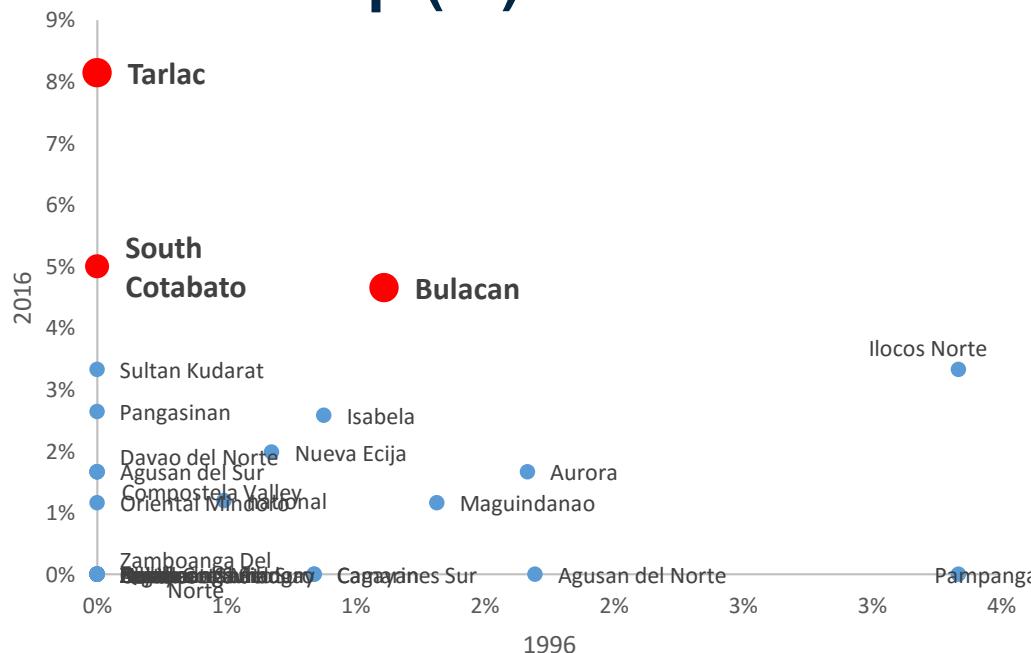
Ownership (%) of four wheel tractor



2016

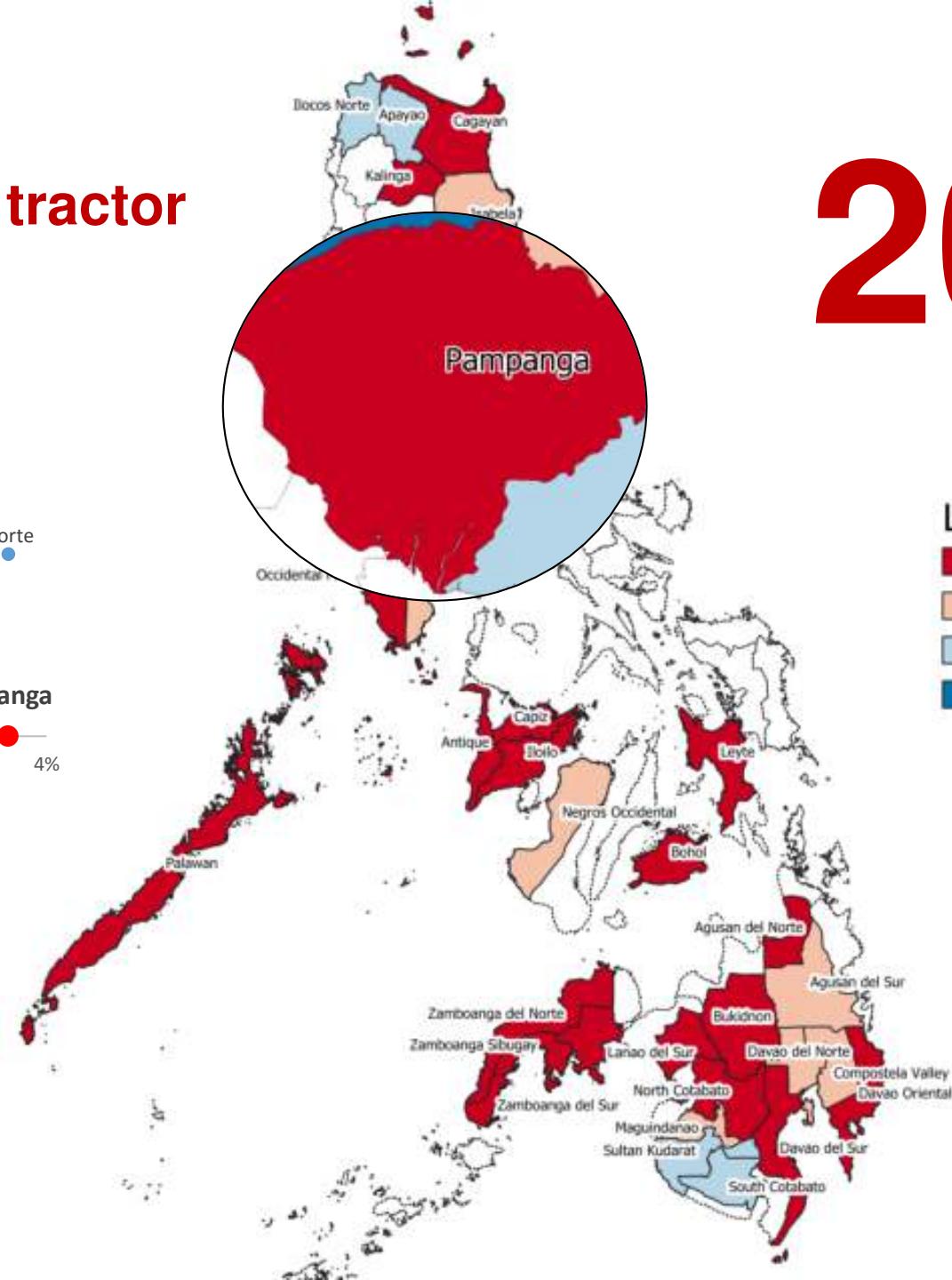
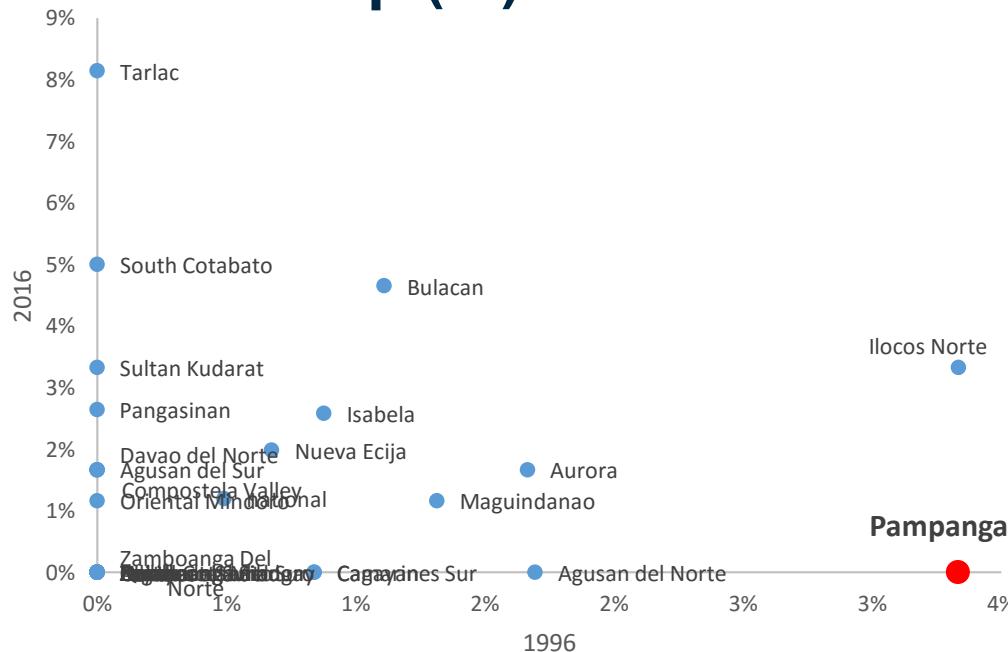
2016

Ownership (%) of four wheel tractor



2016

Ownership (%) of four wheel tractor



Farm Assets

Farm Machineries

Four wheel tractor

Floating tiller (Turtle)

Thresher

Hand tractor

Farm Assets

Farm Machineries

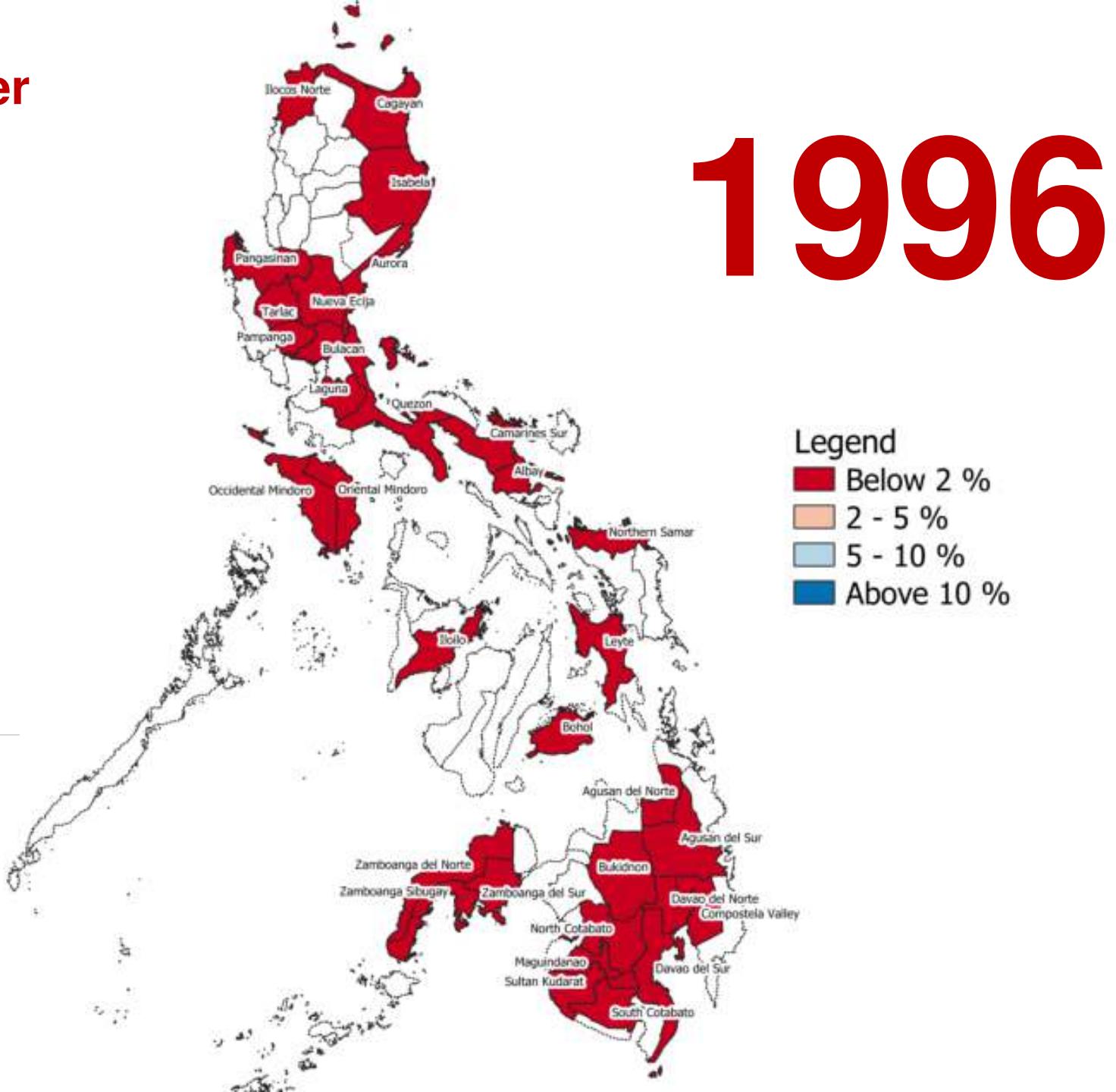
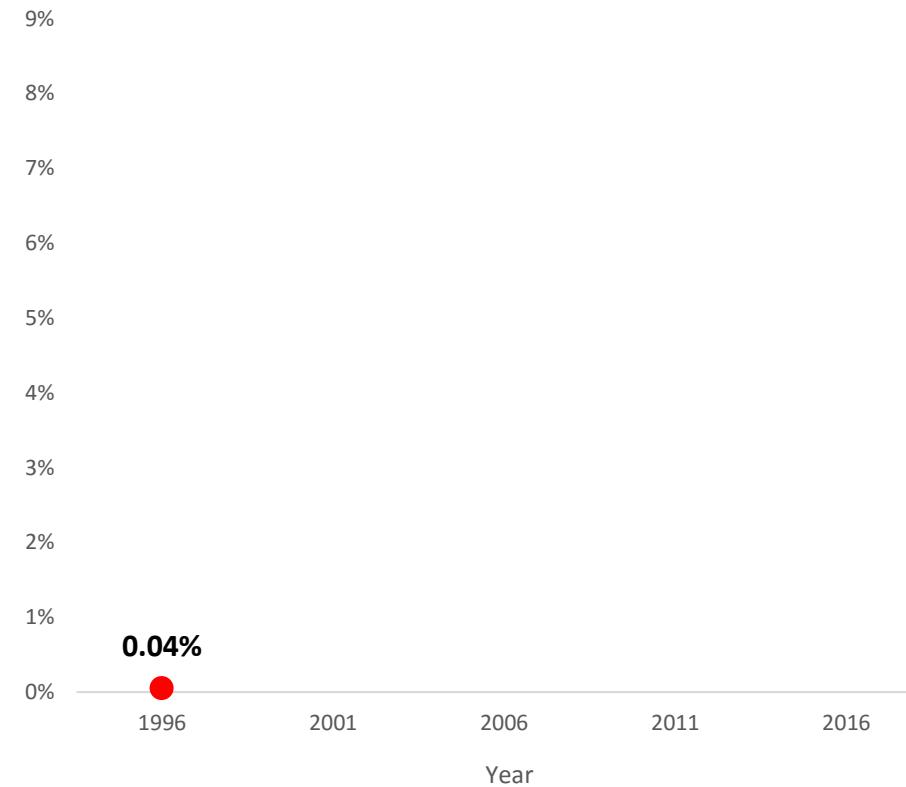
Hand tractor

Four wheel tractor

Floating tiller (Turtle)

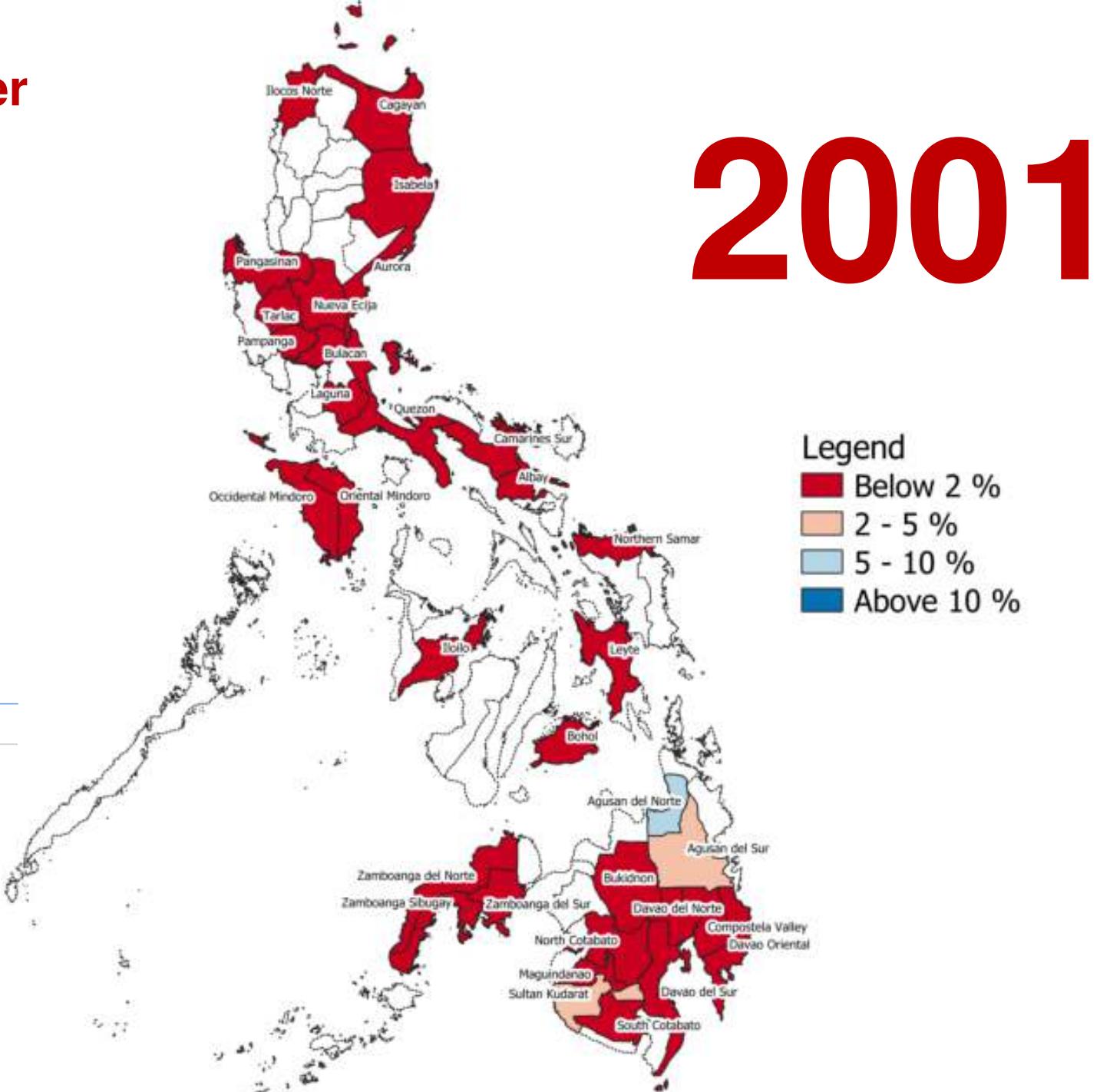
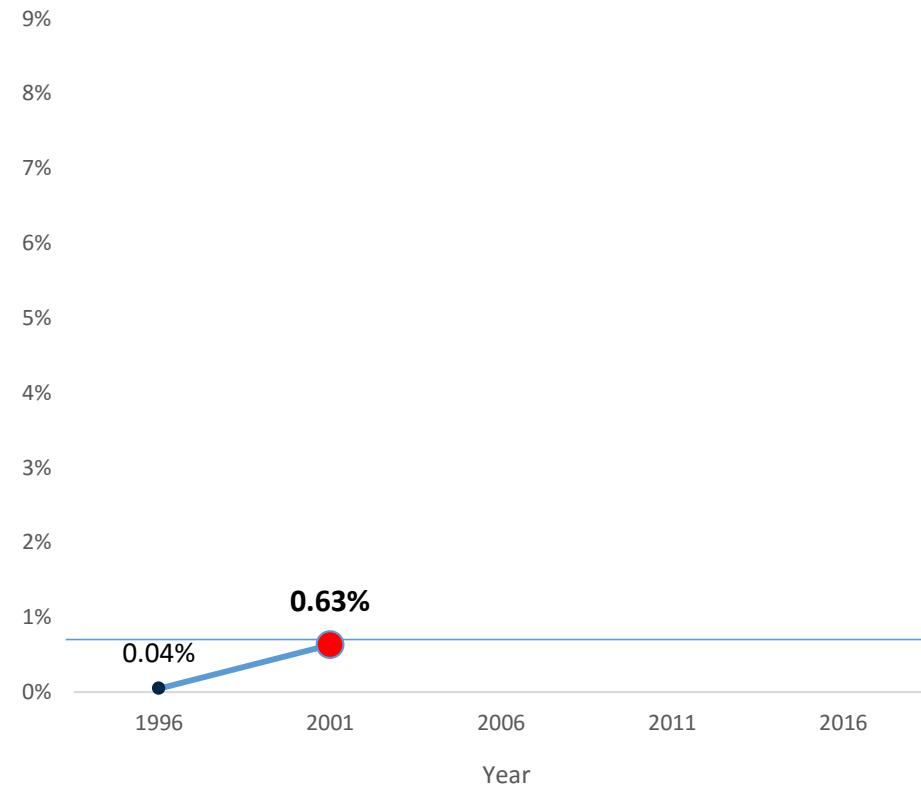
Thresher

Ownership (%) of floating tiller (turtle)

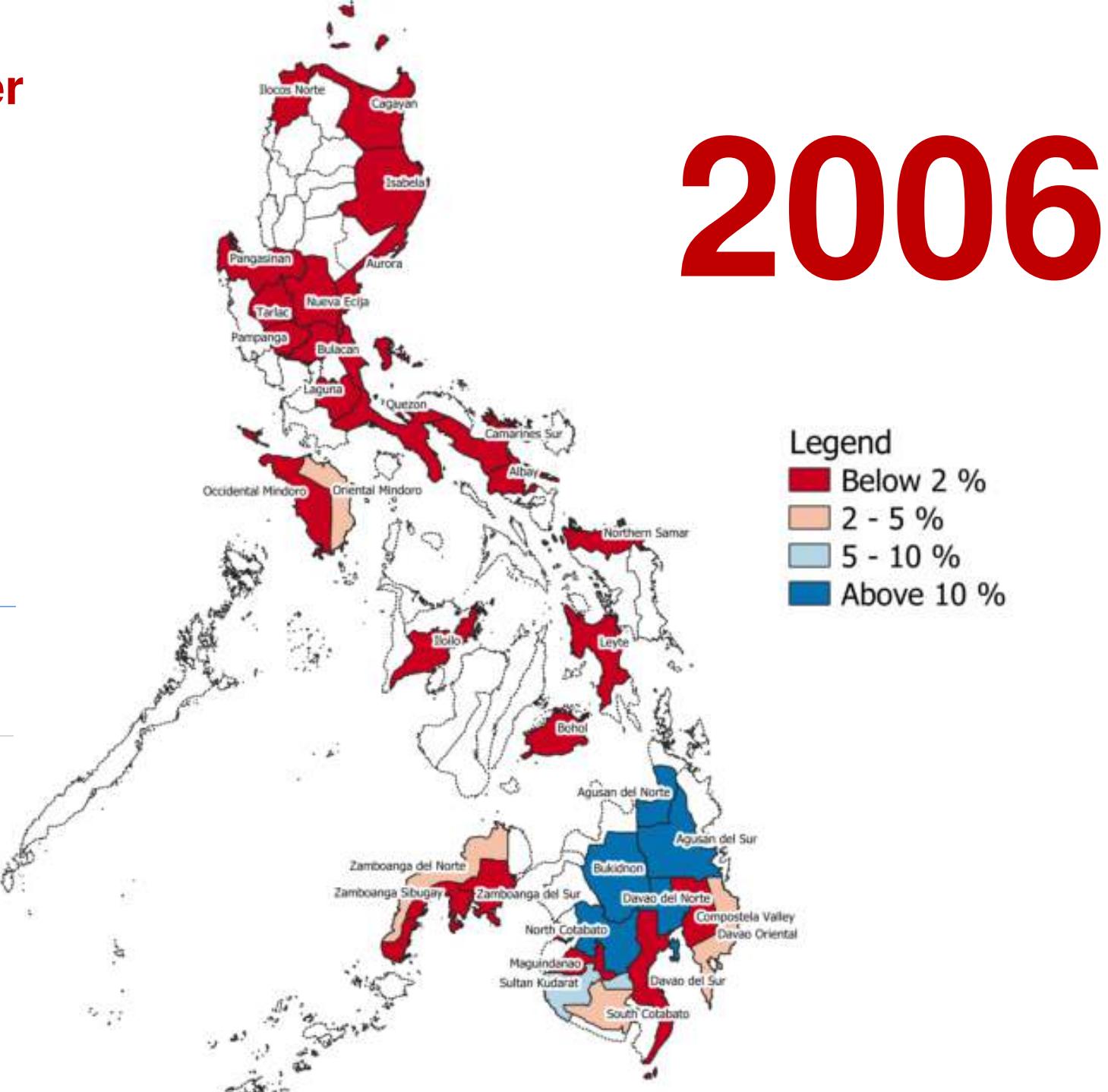
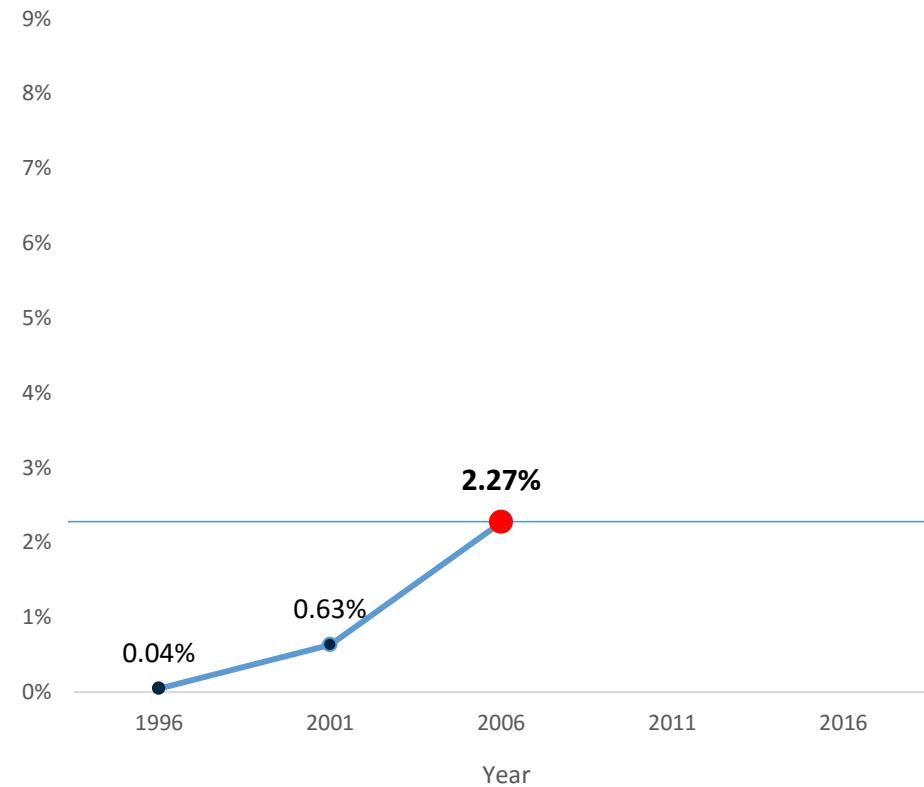


1996

Ownership (%) of floating tiller (turtle)

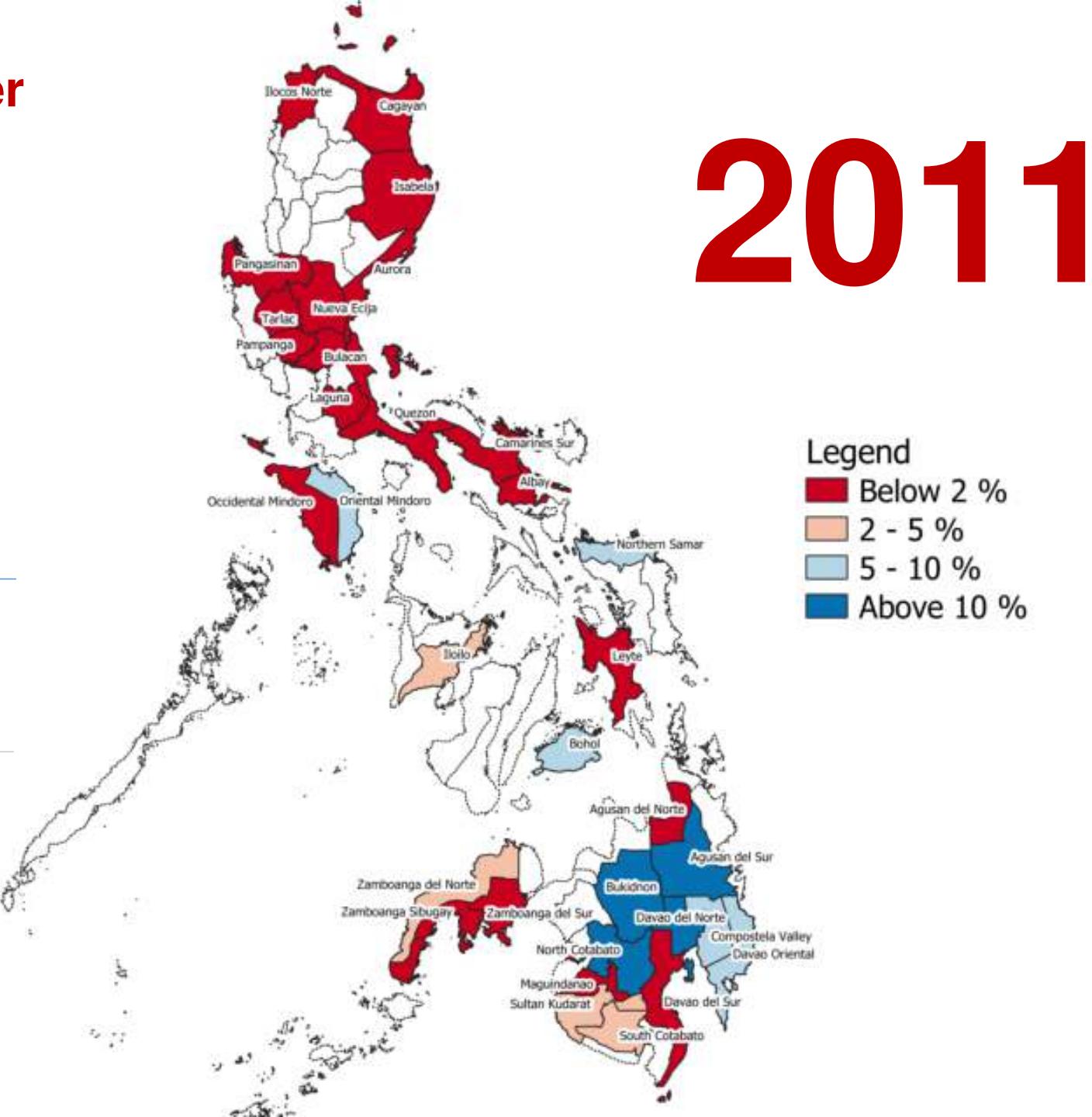
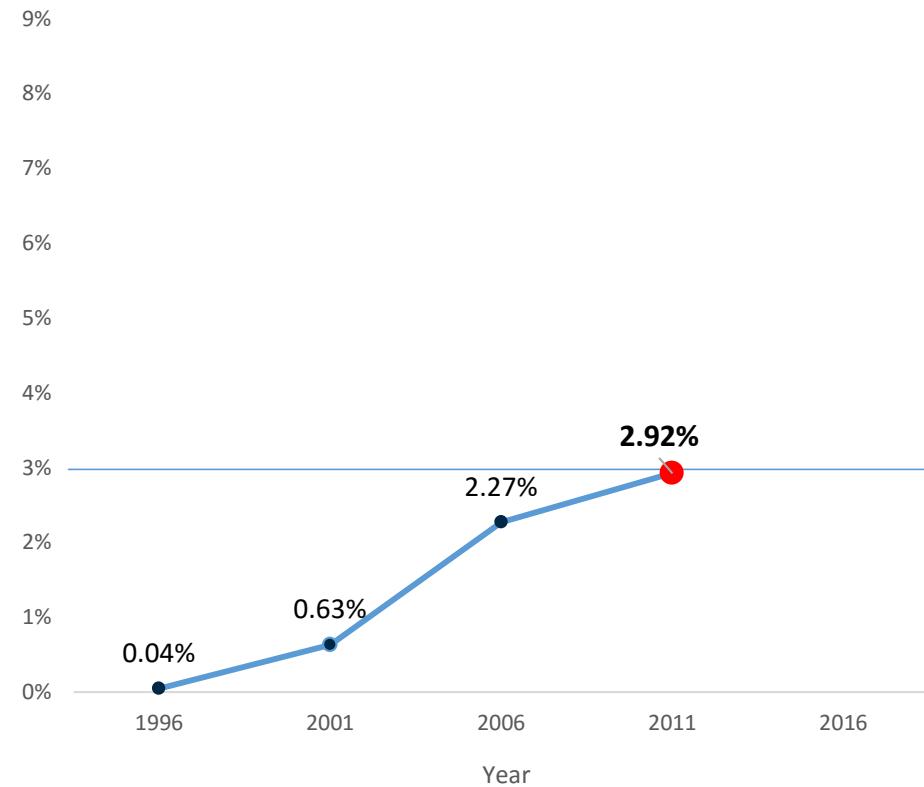


Ownership (%) of floating tiller (turtle)

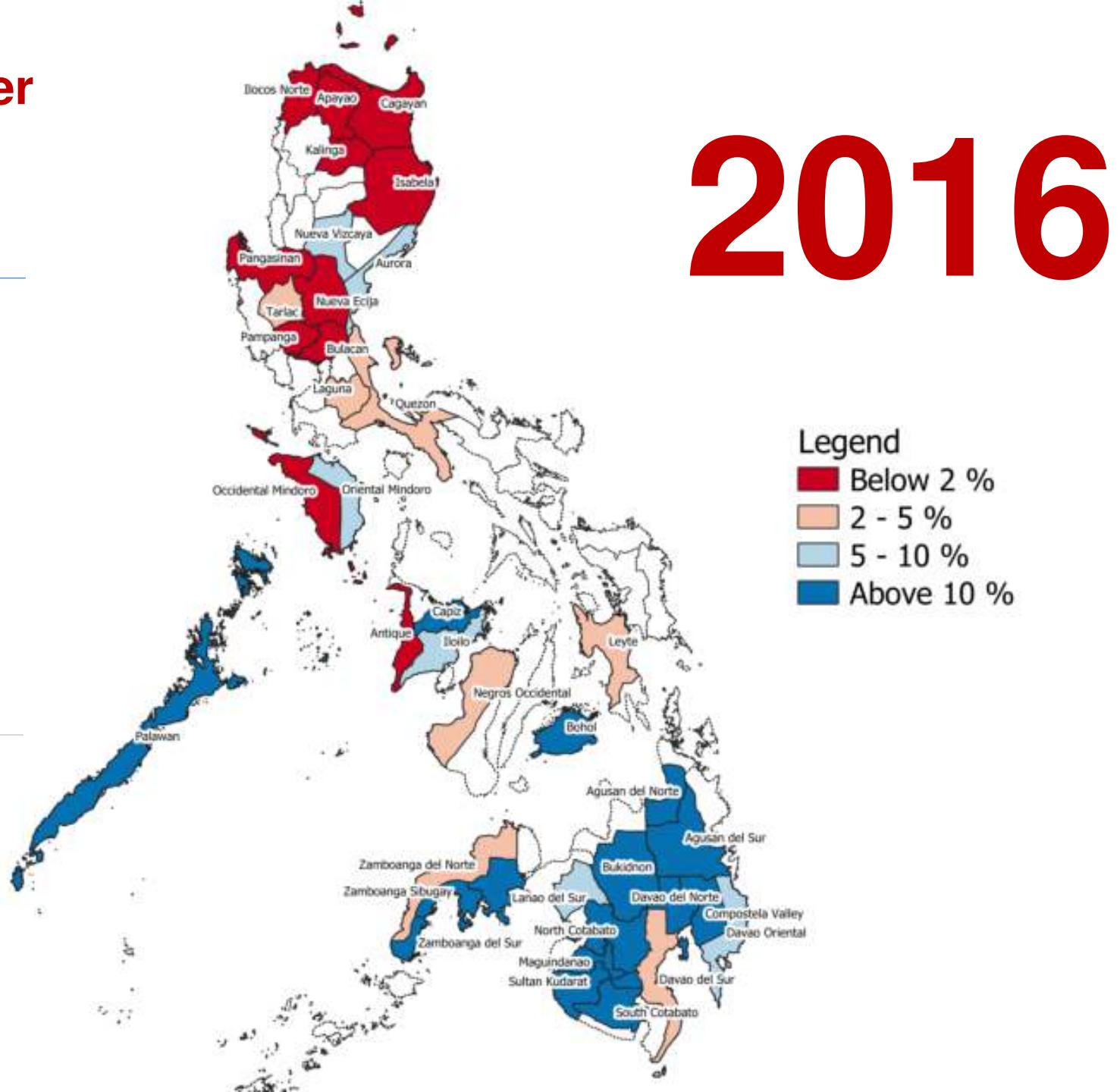
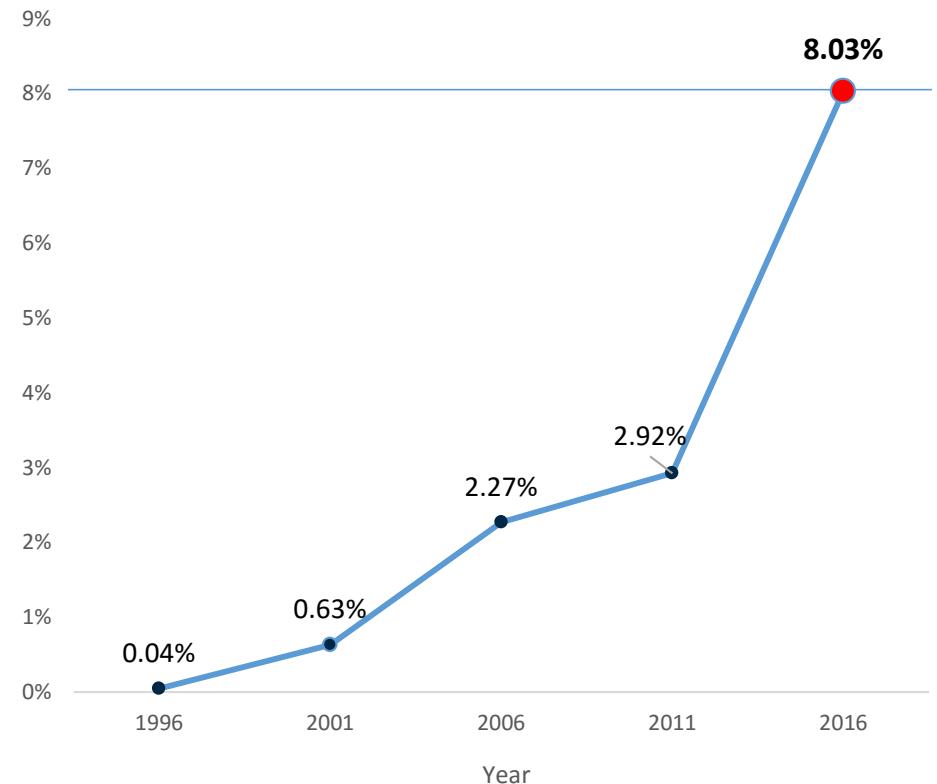


2006

Ownership (%) of floating tiller (turtle)

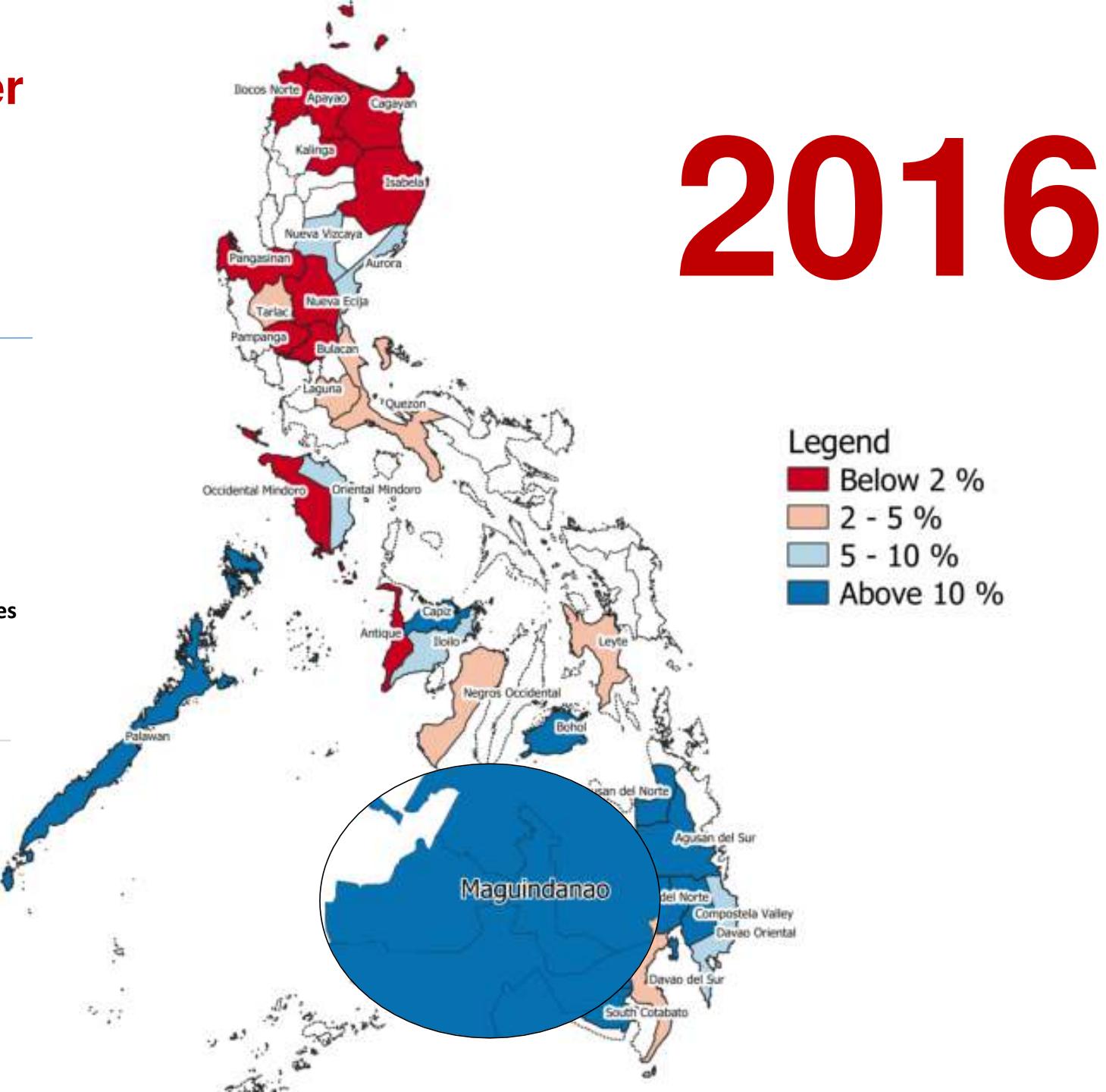
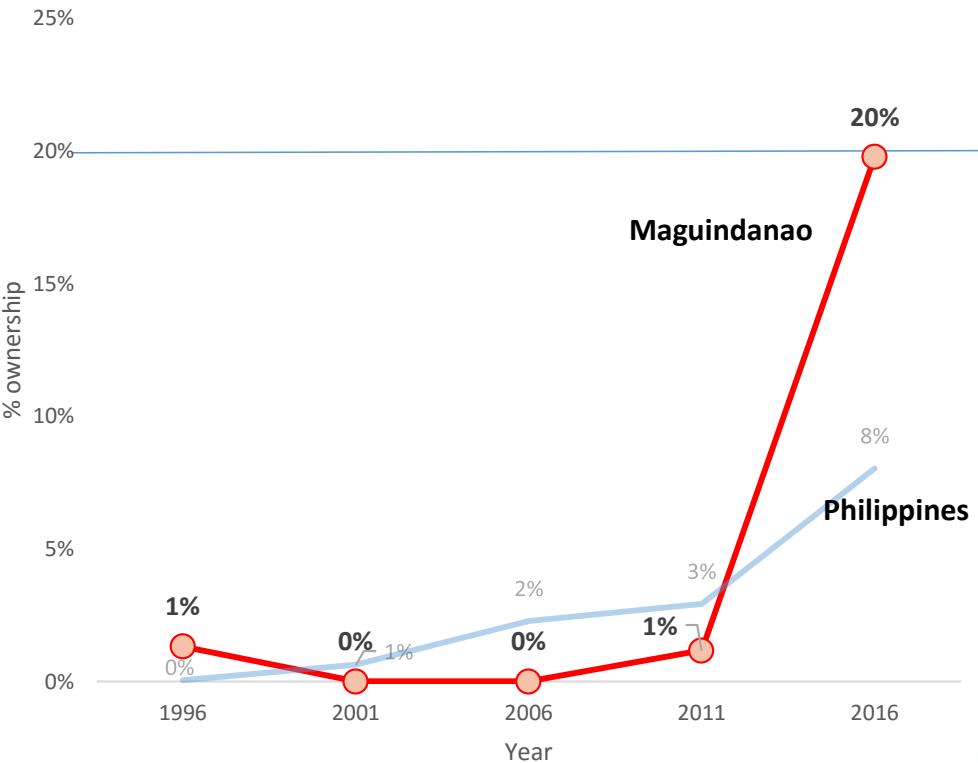


Ownership (%) of floating tiller (turtle)



2016

Ownership (%) of floating tiller (turtle)



Farm Assets

Farm Machineries

Hand tractor

Four wheel tractor

Floating tiller (Turtle)

Thresher

Farm Assets

Hand tractor

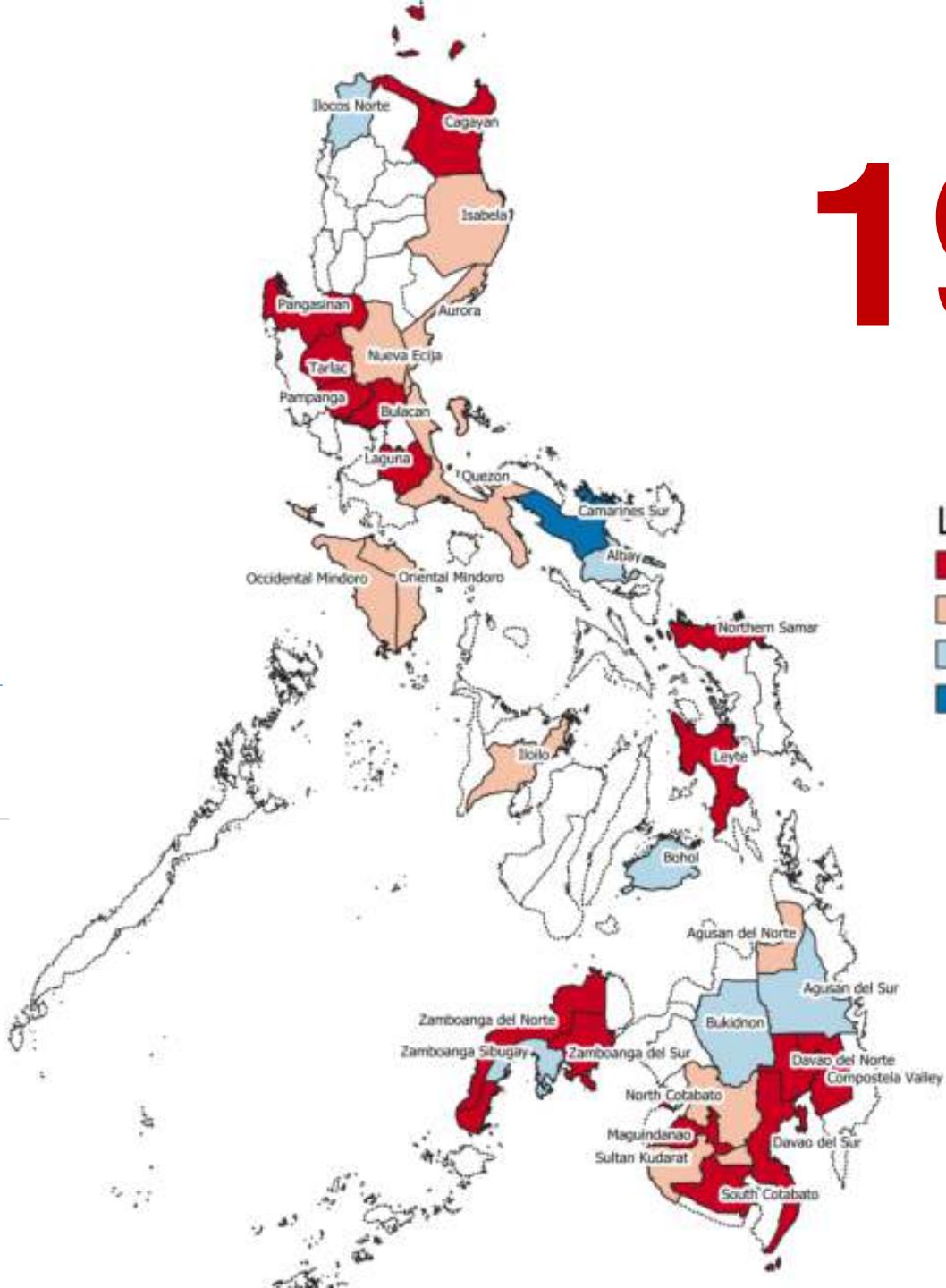
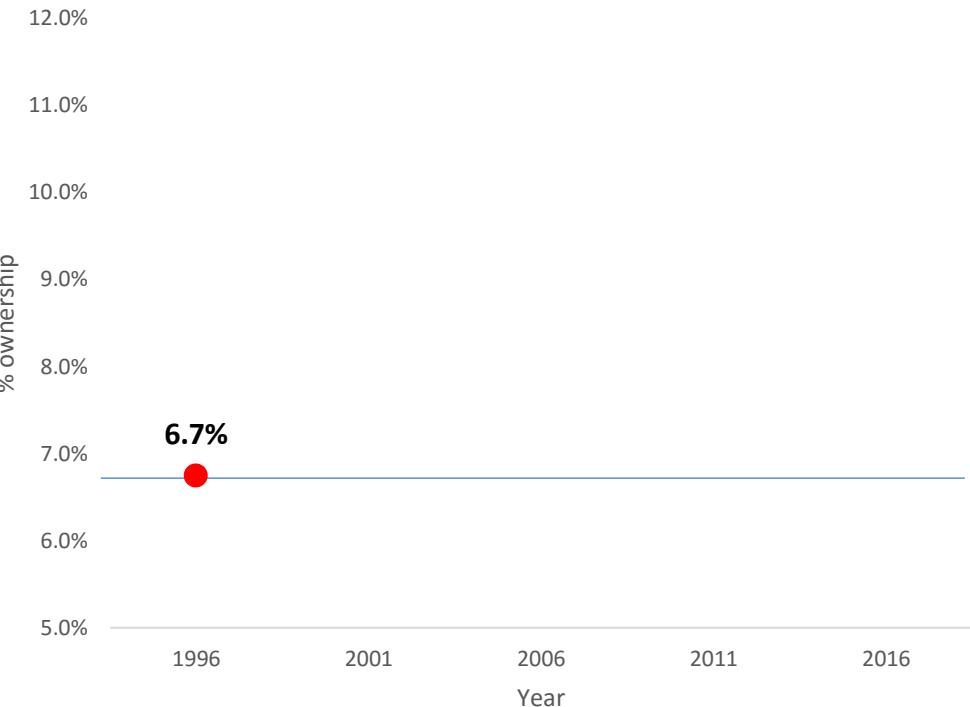
Four wheel tractor

Floating tiller (Turtle)

Farm Machineries

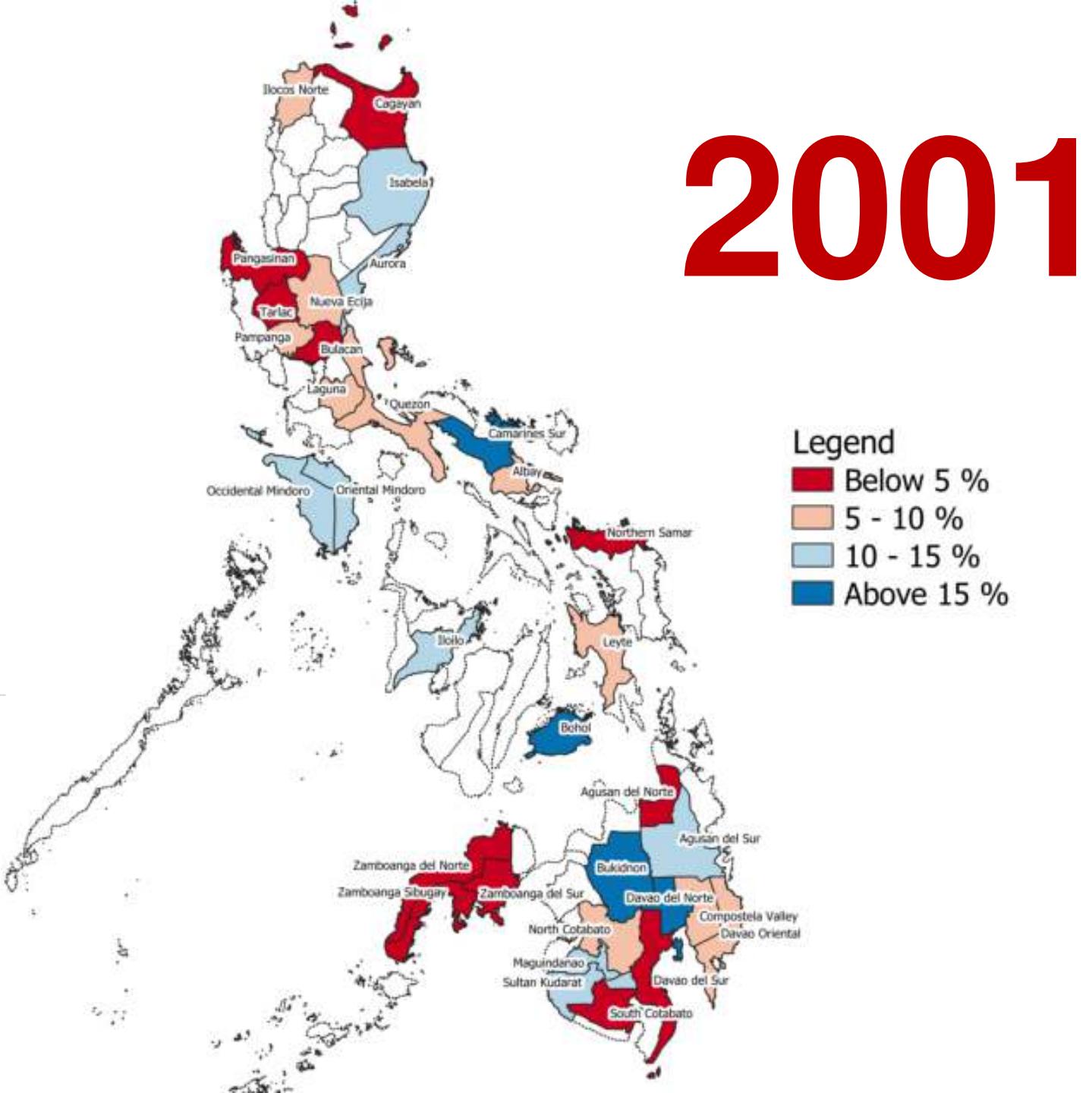
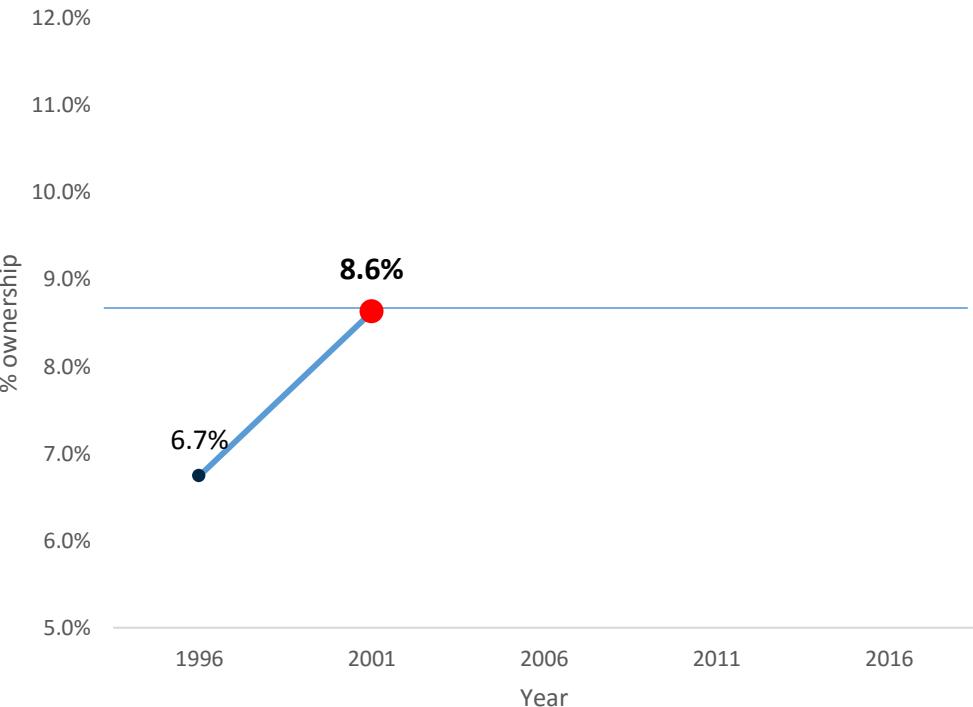
Thresher

Ownership (%) of thresher



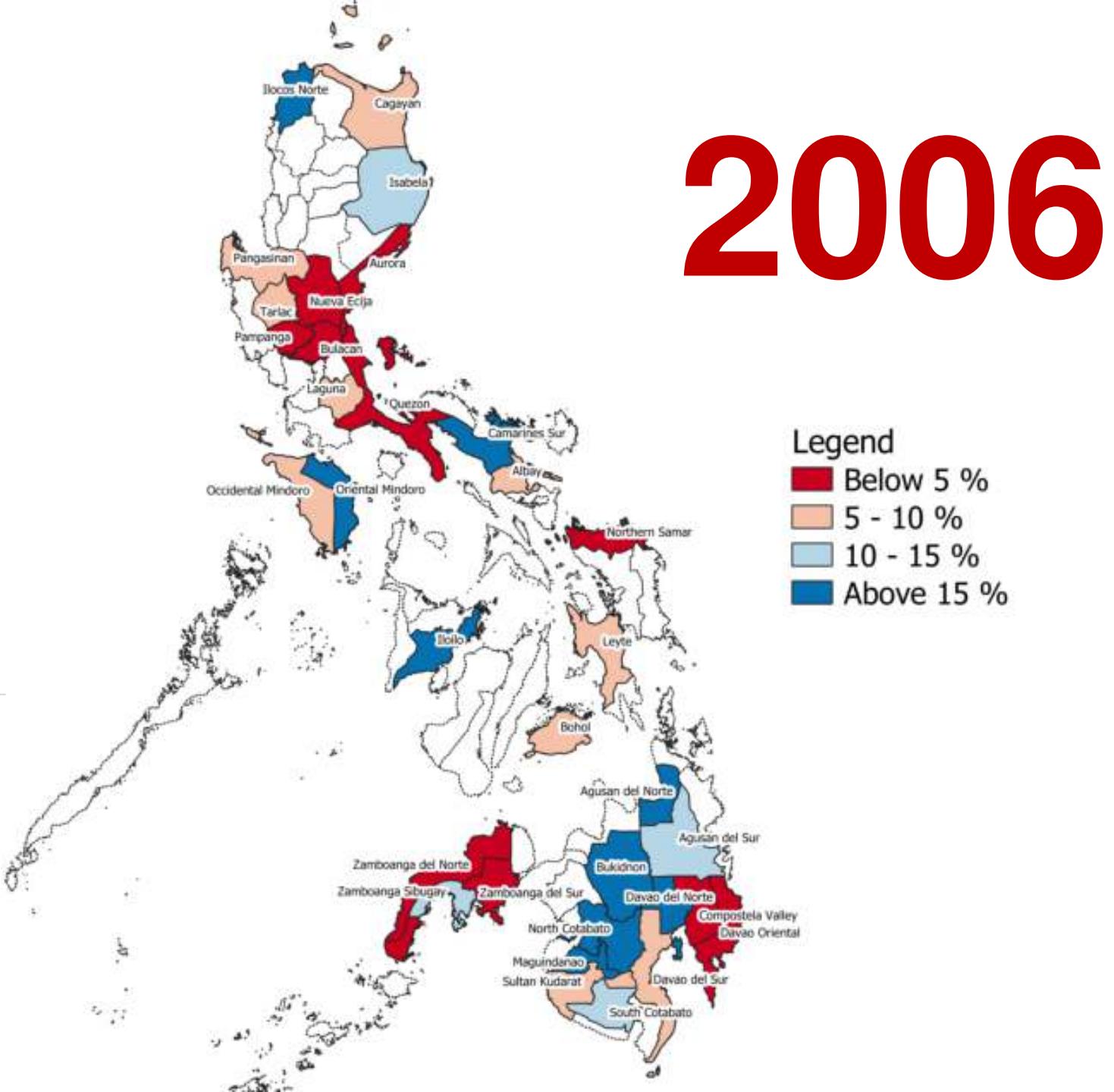
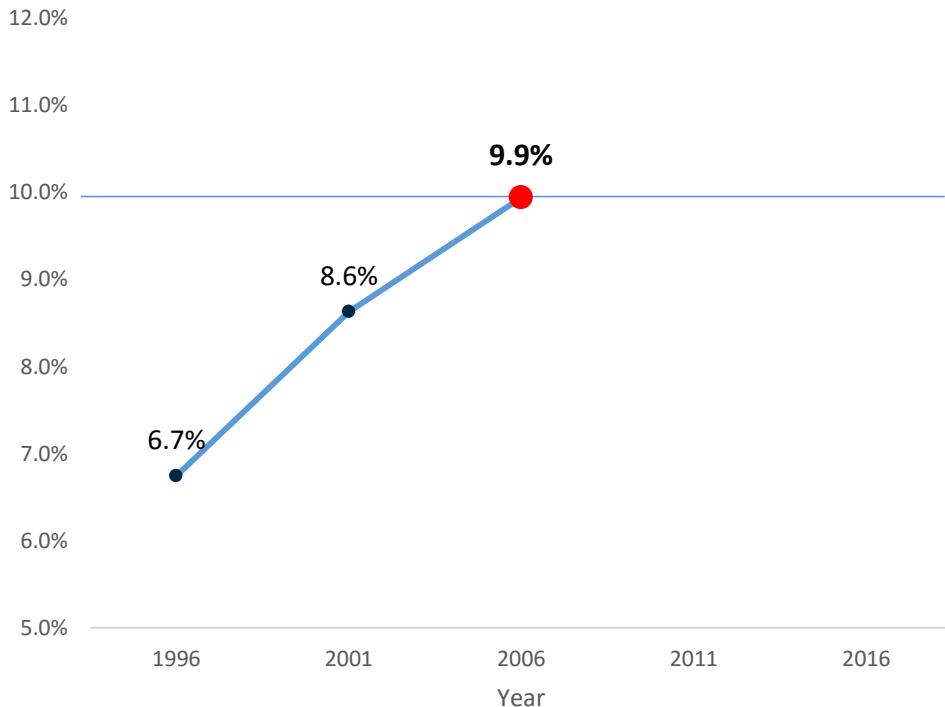
1996

Ownership (%) of thresher

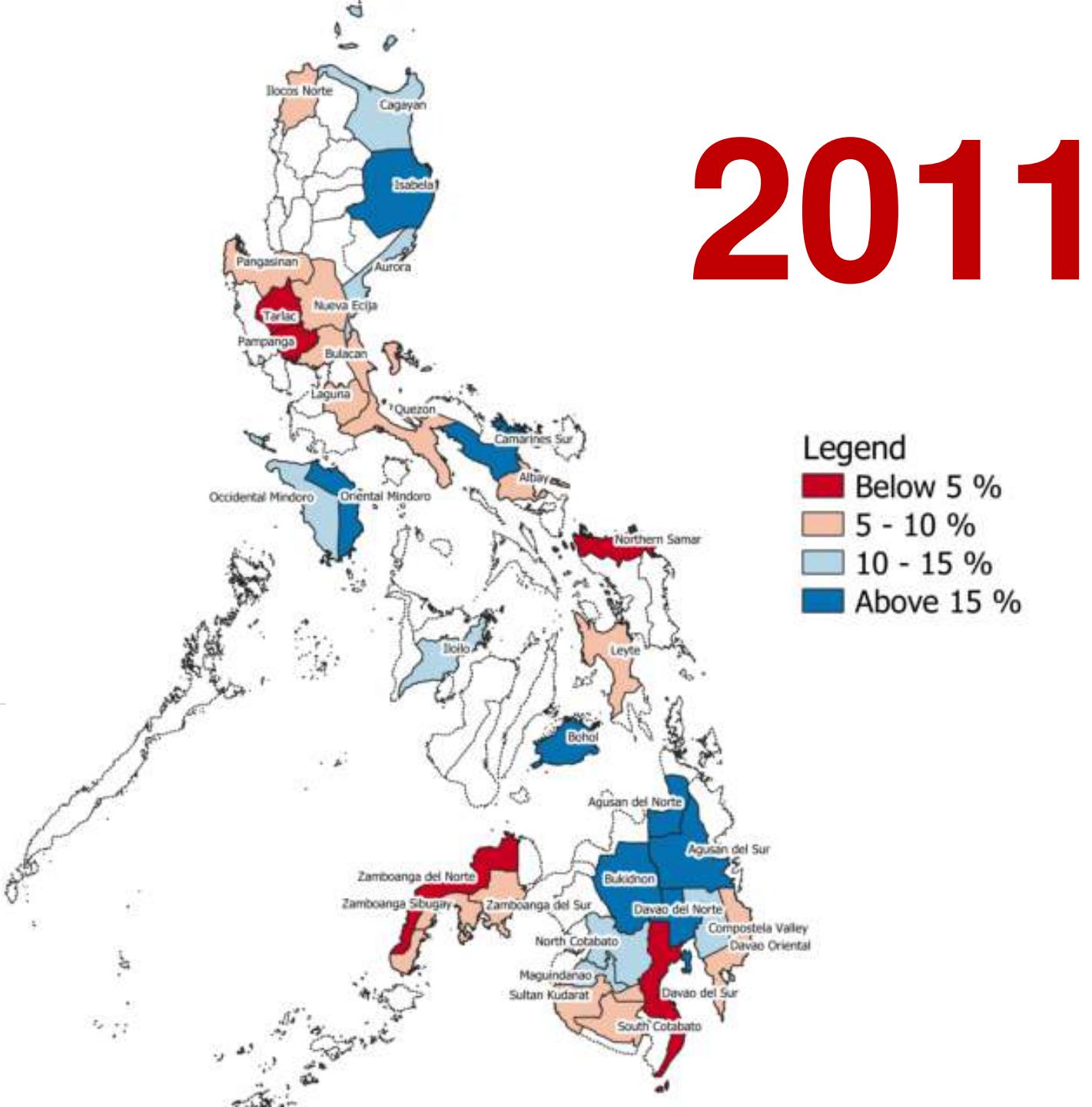
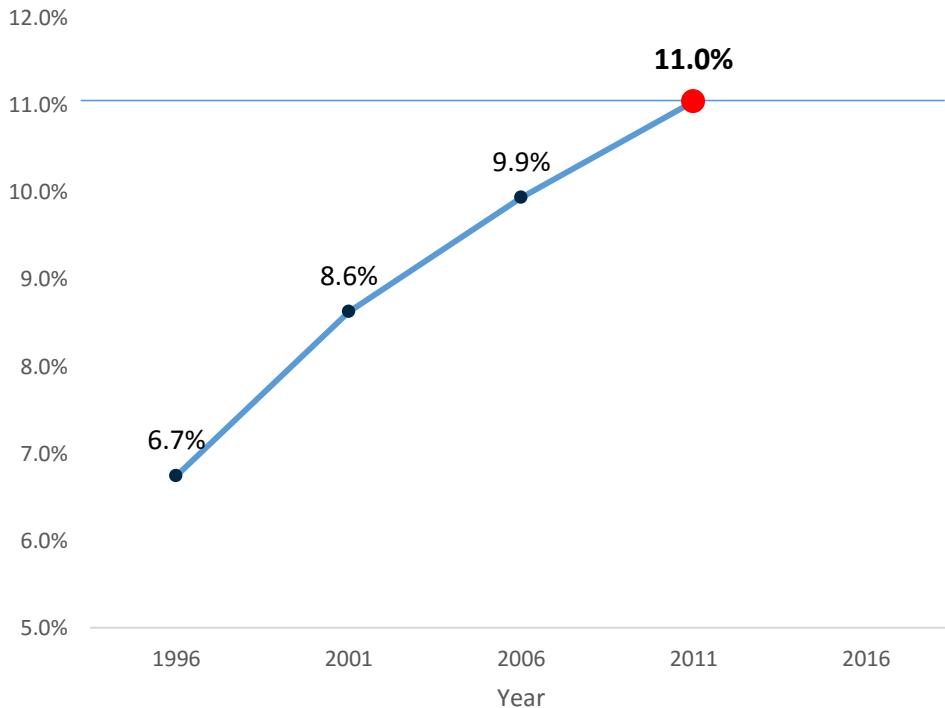


2001

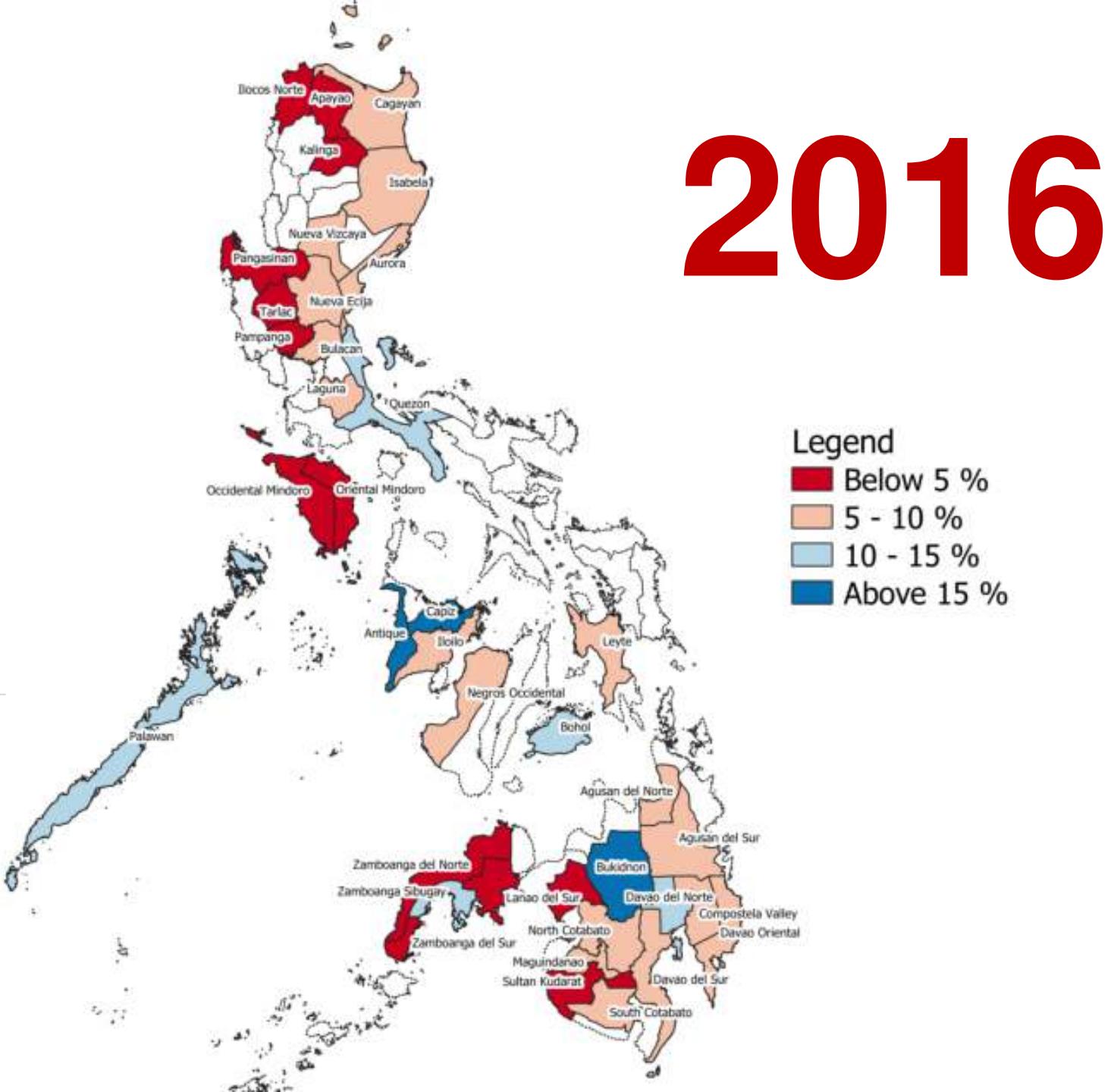
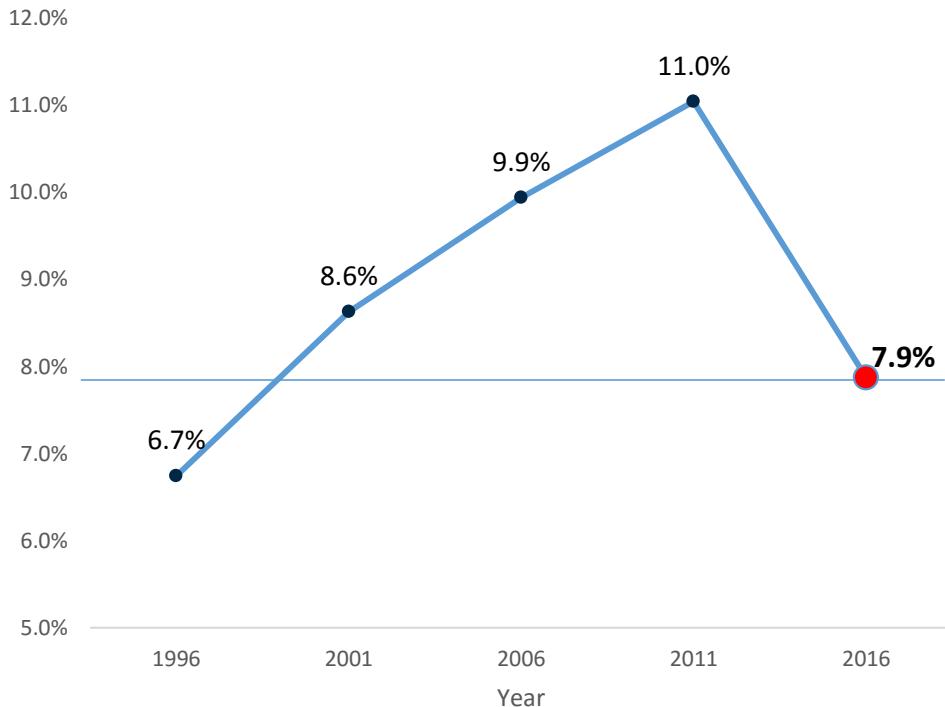
Ownership (%) of thresher



Ownership (%) of thresher



Ownership (%) of thresher



Farm Assets

Rice Farm land

Draft Animals

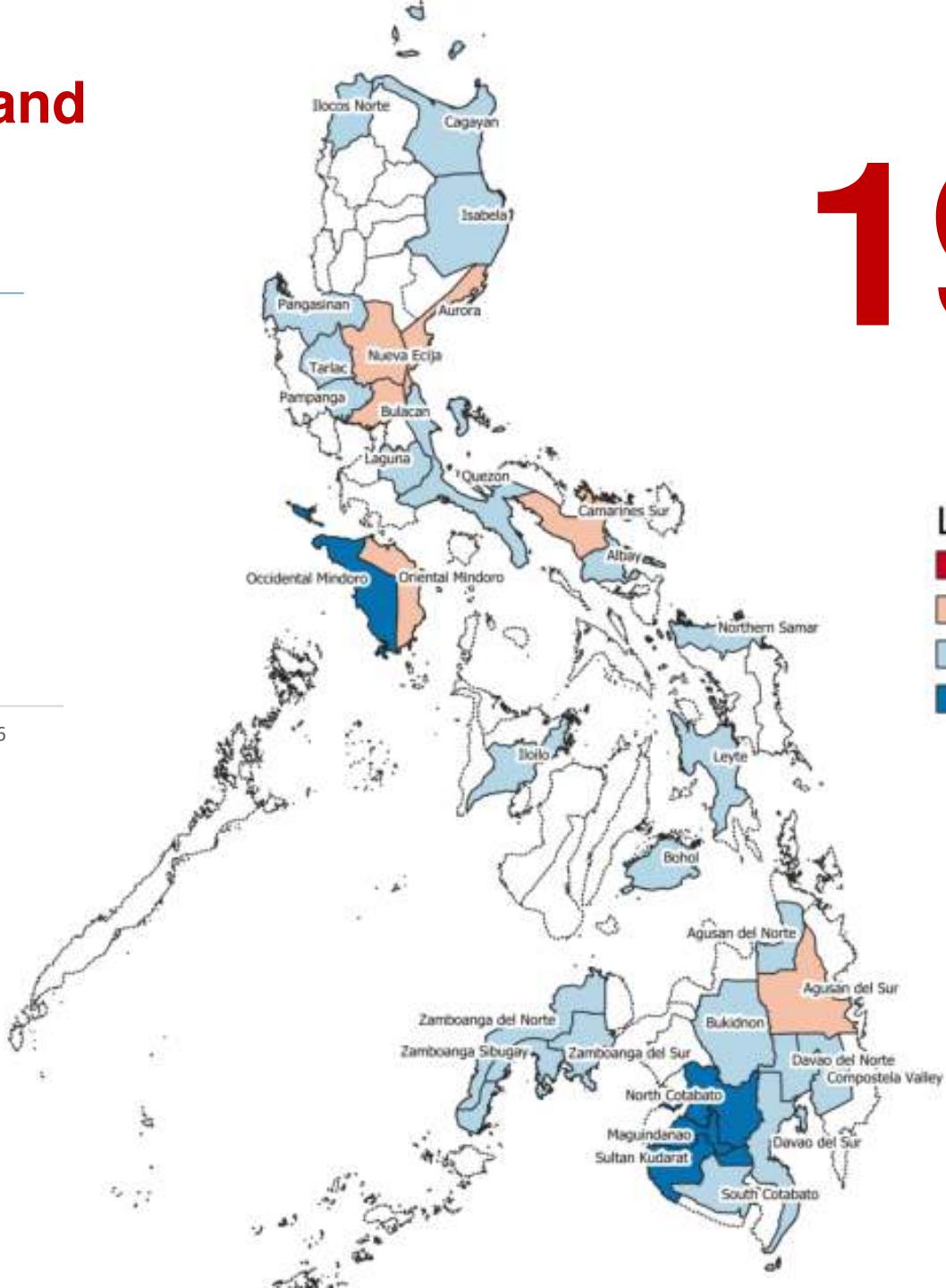
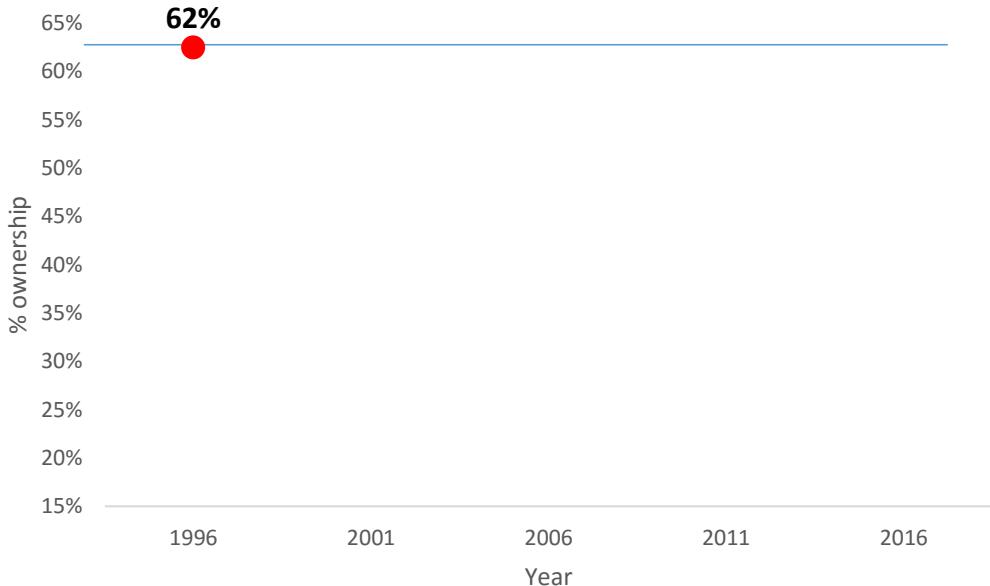
Farm Machineries

Farm tools and Implements

Irrigation equipment/facility

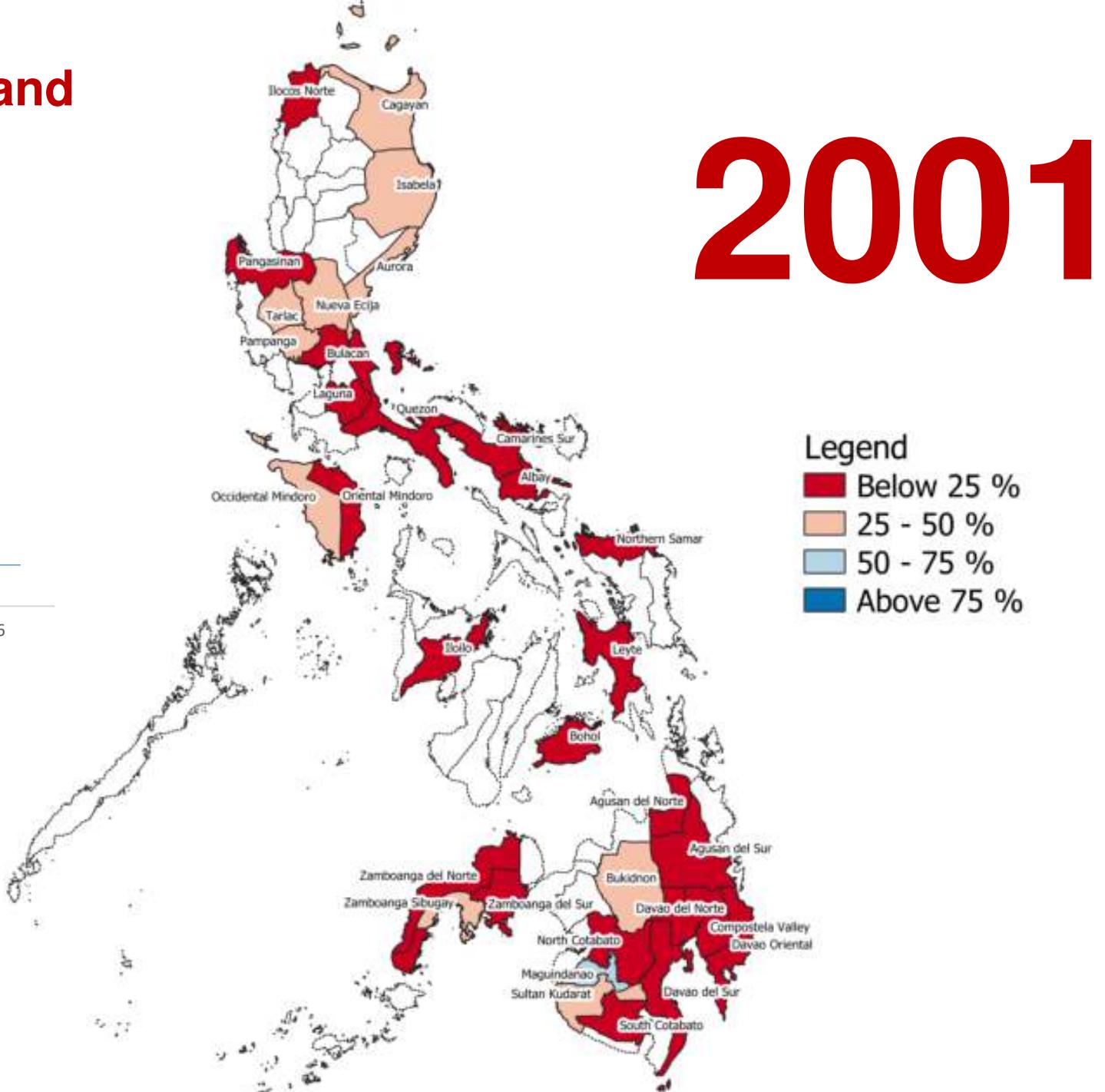
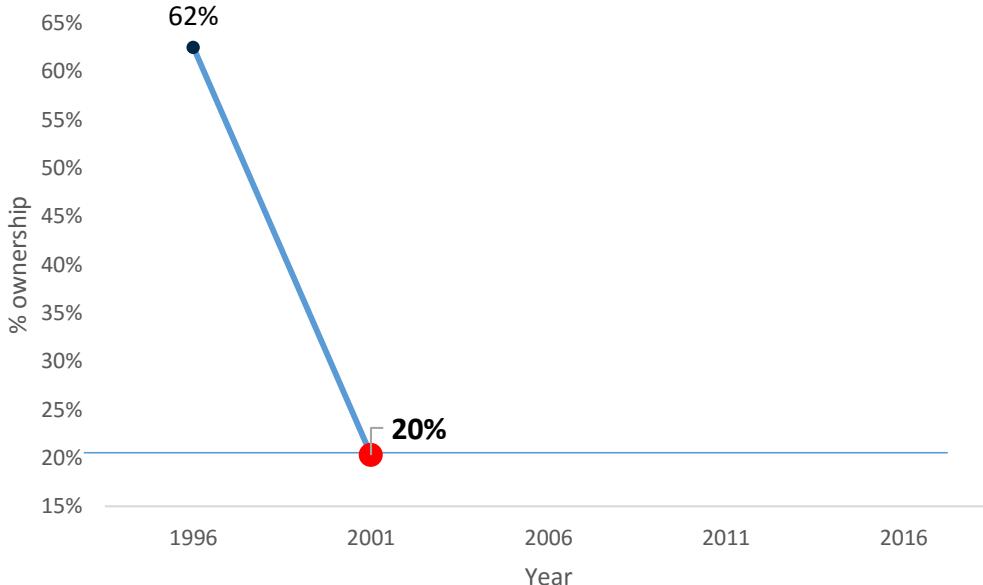
Post harvest facility

Ownership (%) of farm tools and implements

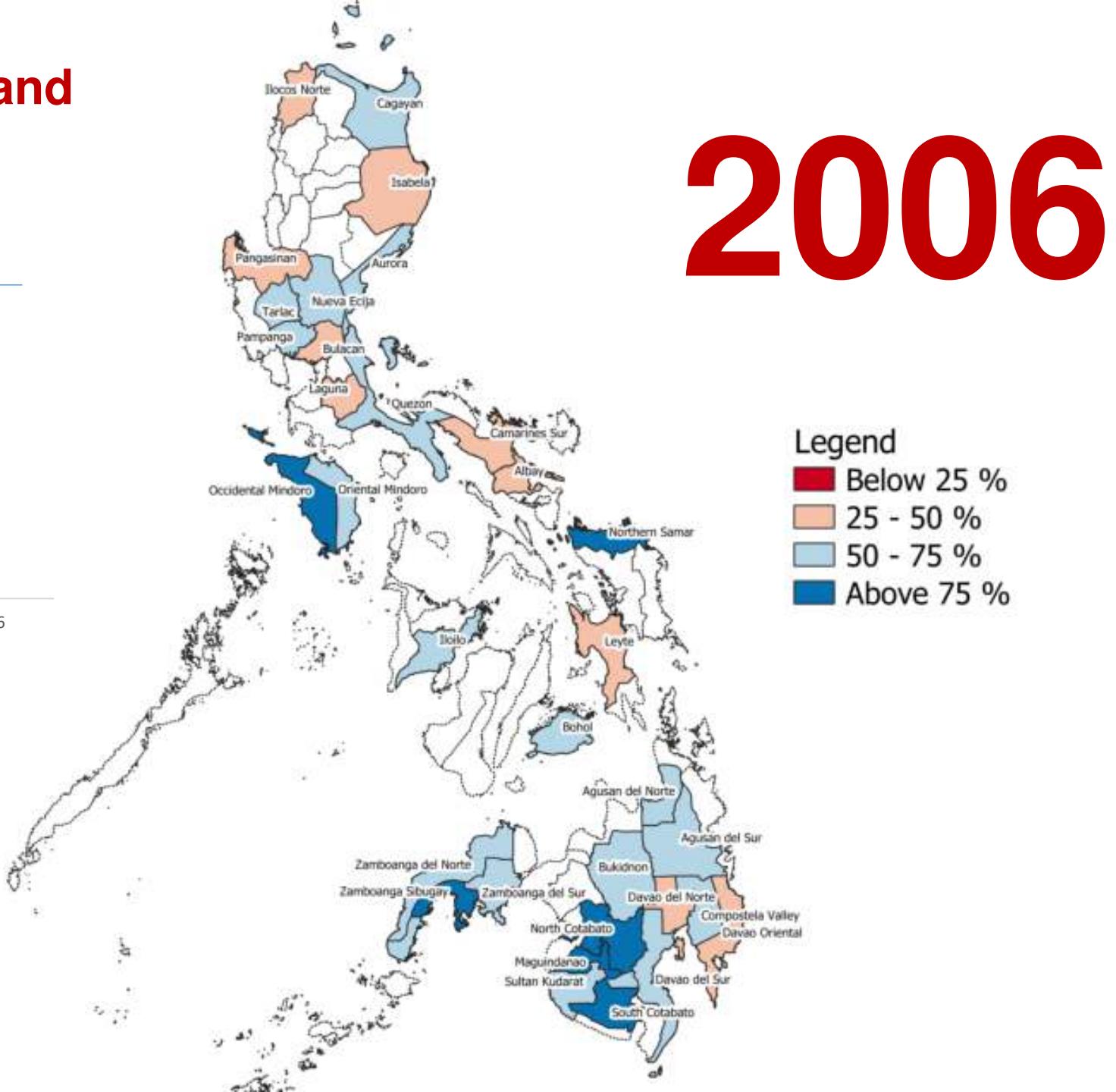
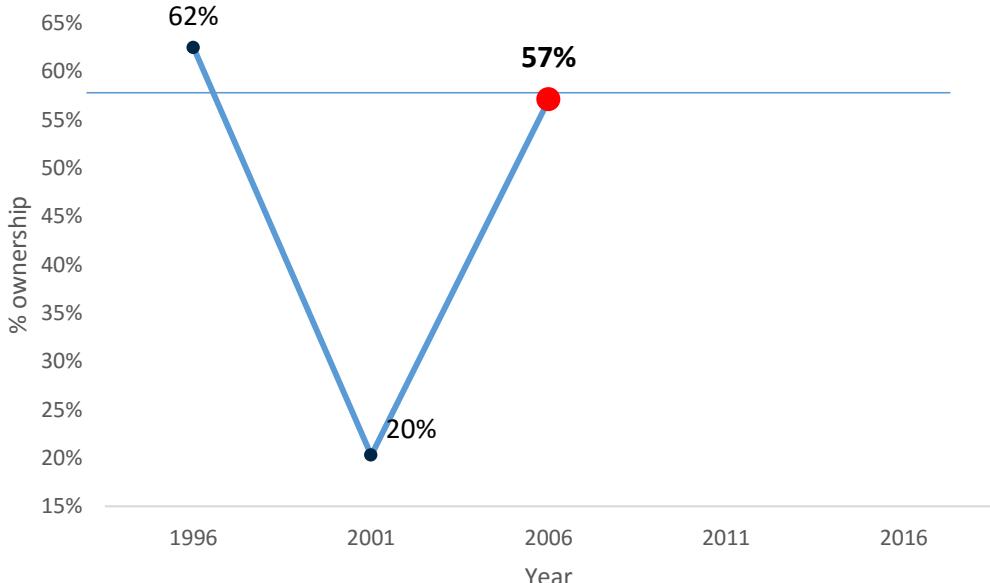


1996

Ownership (%) of farm tools and implements

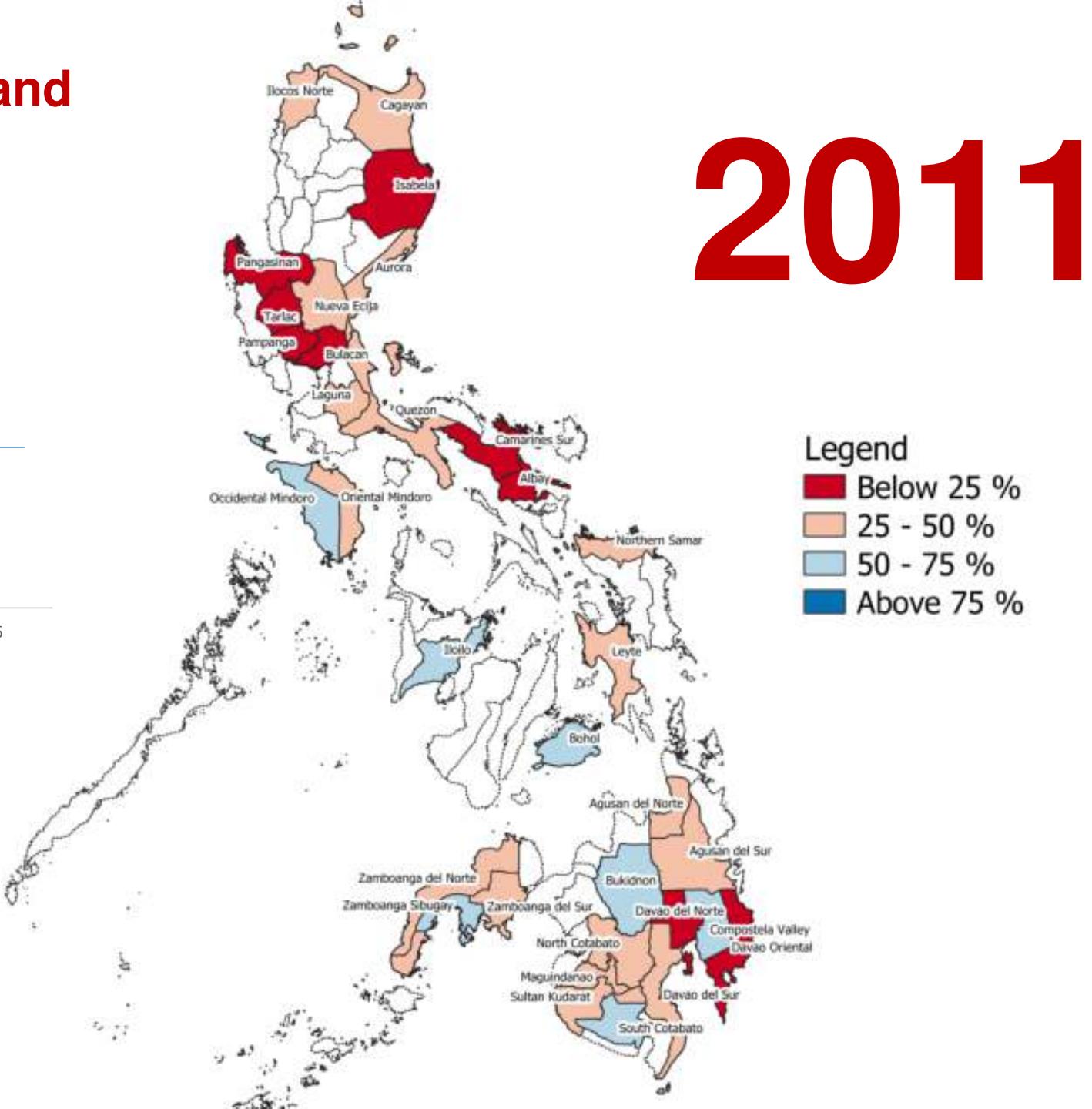
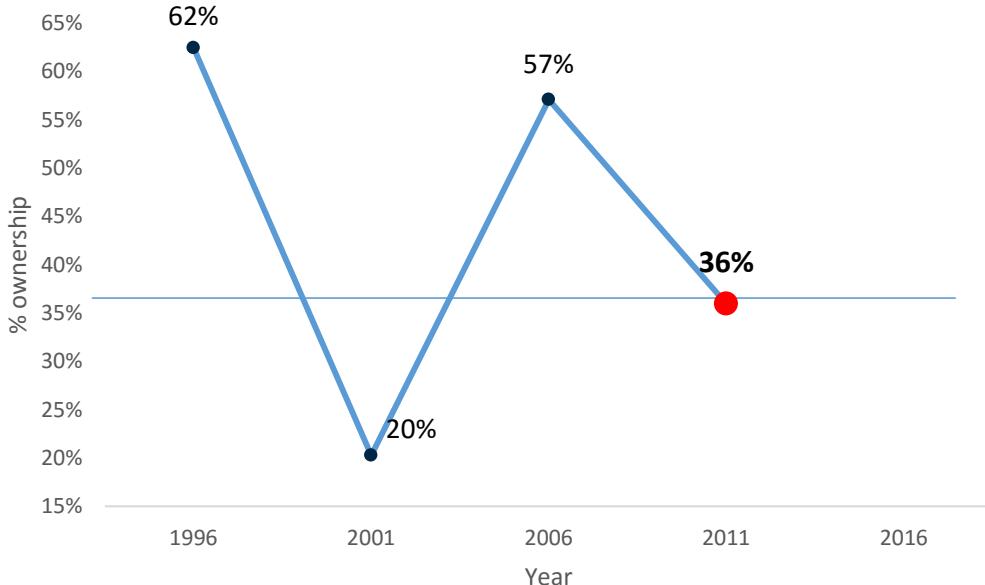


Ownership (%) of farm tools and implements



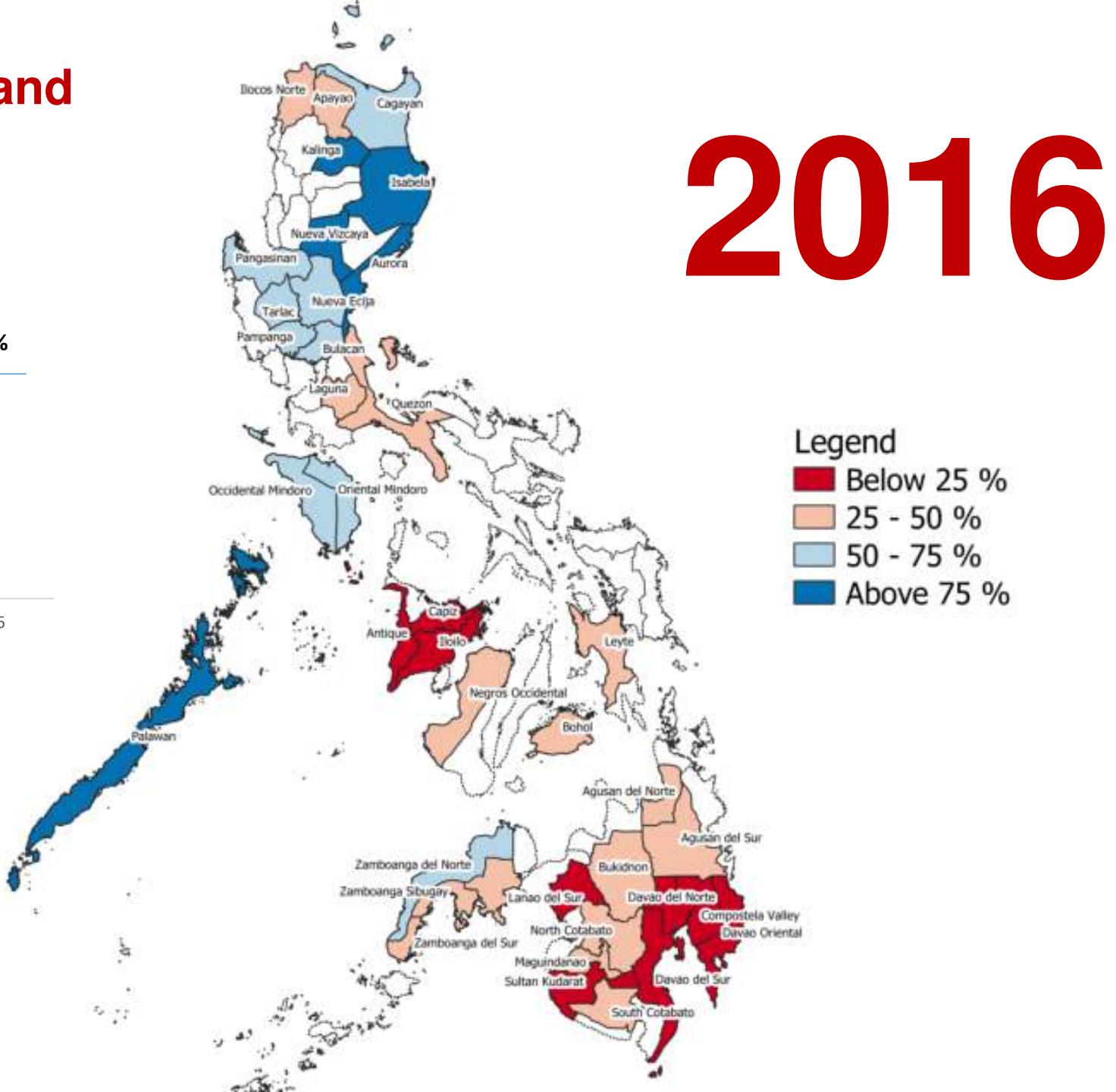
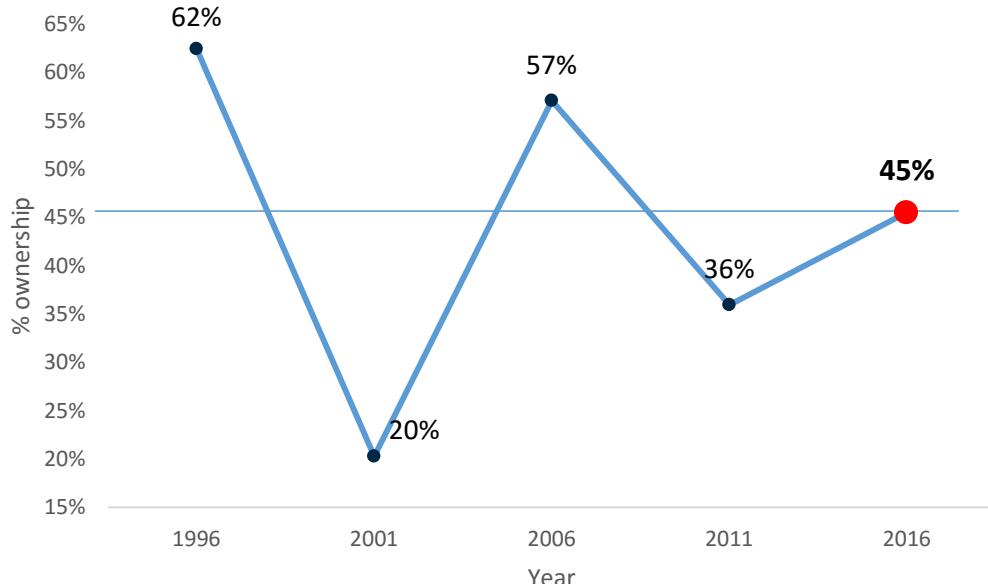
2006

Ownership (%) of farm tools and implements



2011

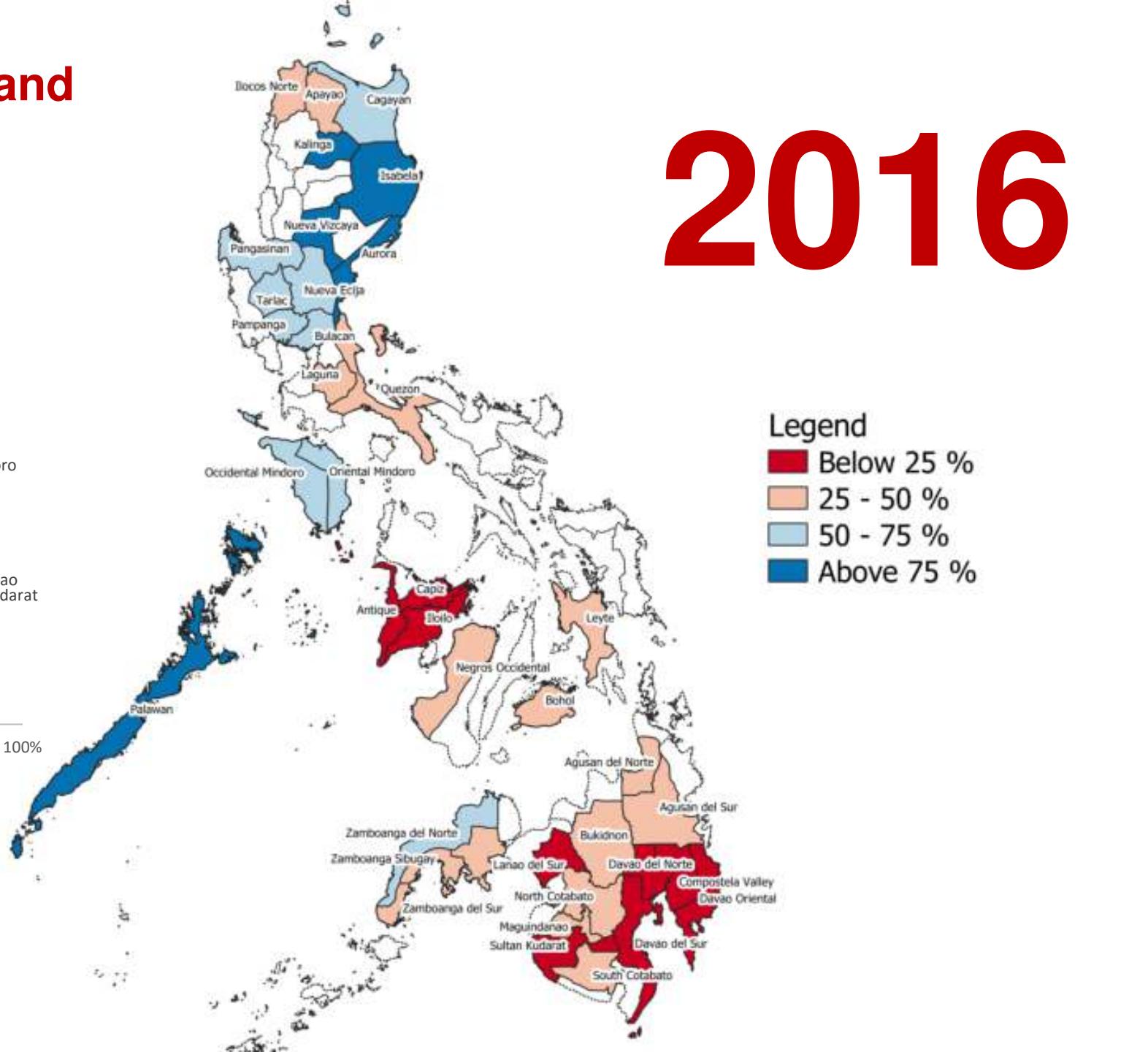
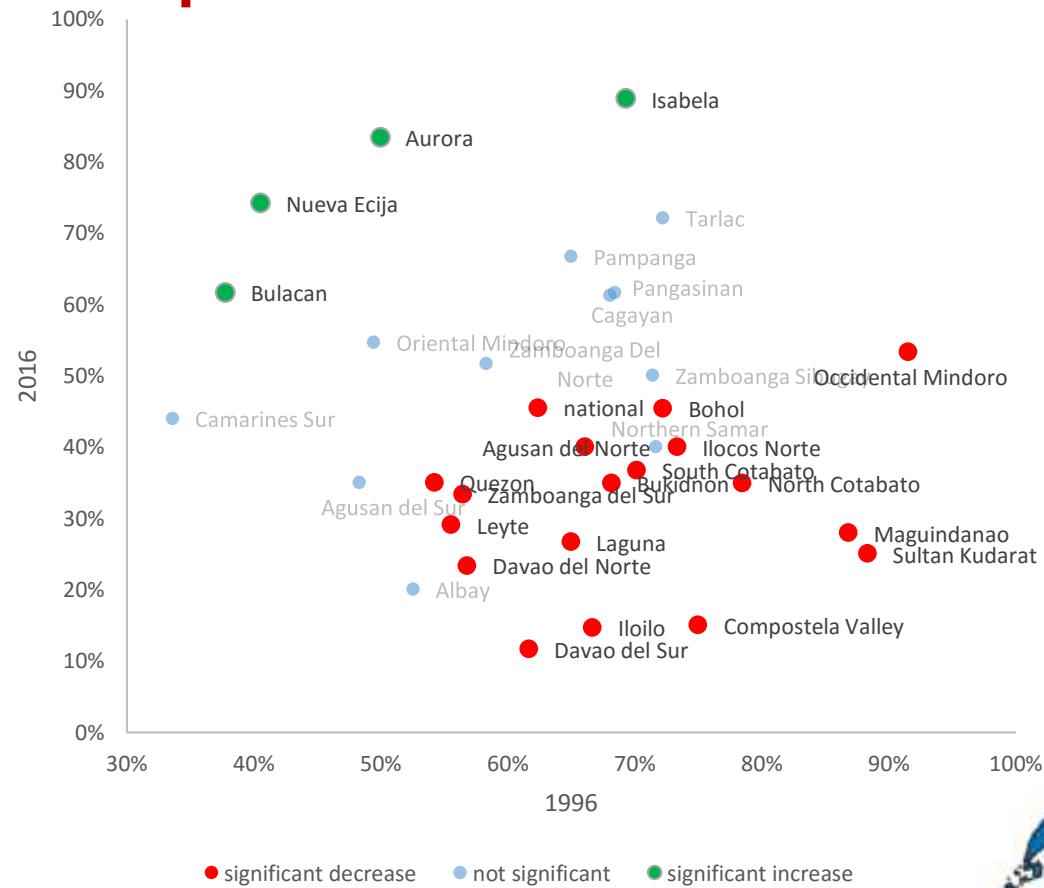
Ownership (%) of farm tools and implements



2016

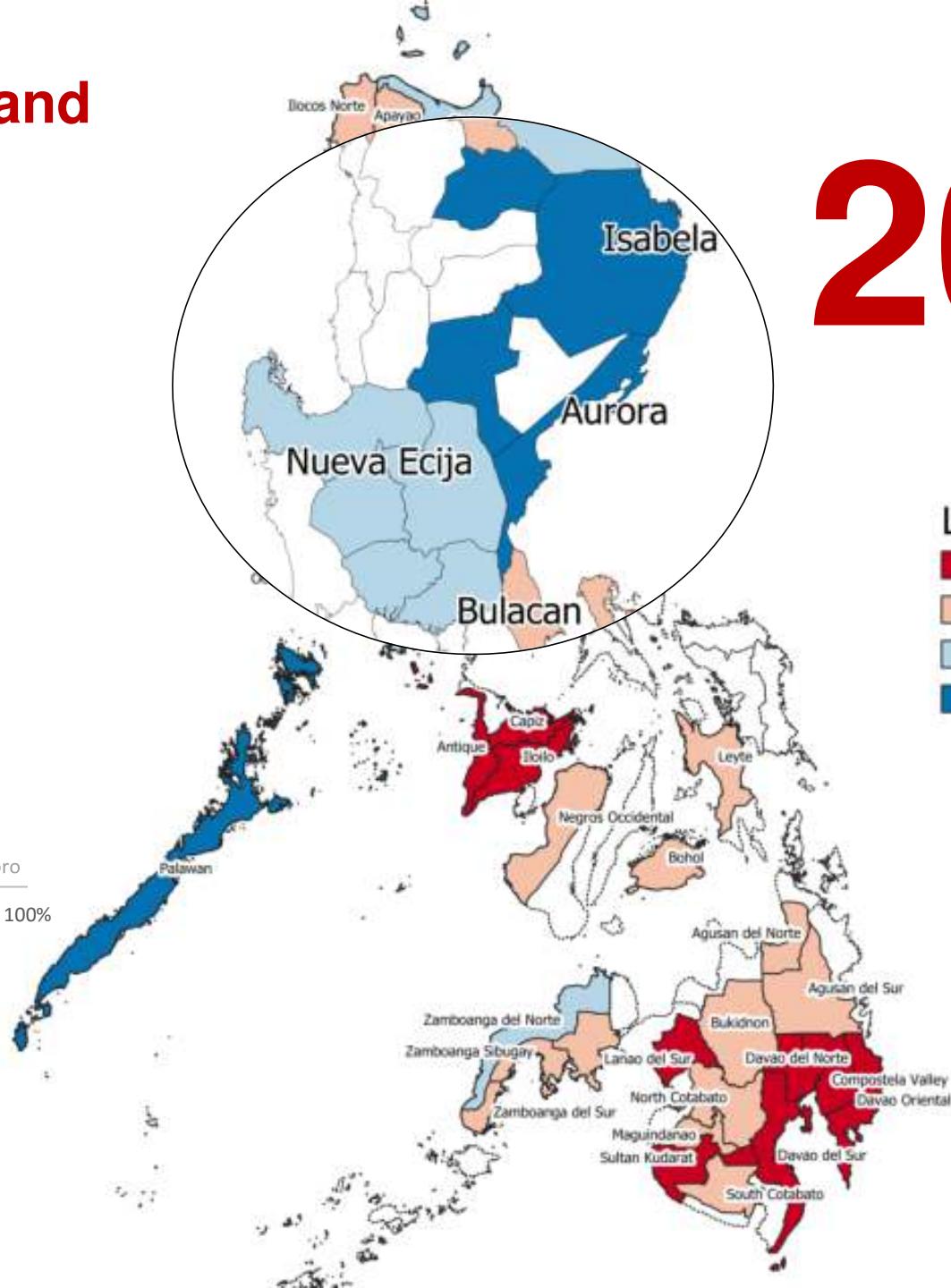
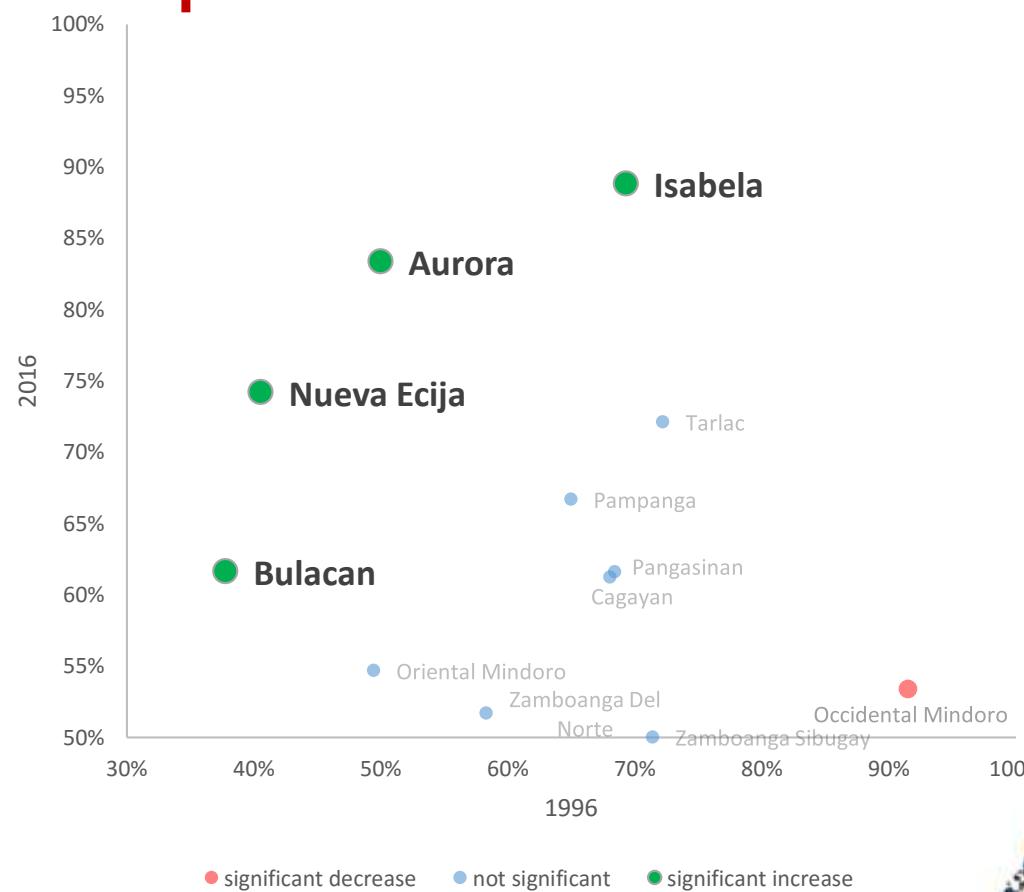
Ownership (%) of farm tools and implements

2016



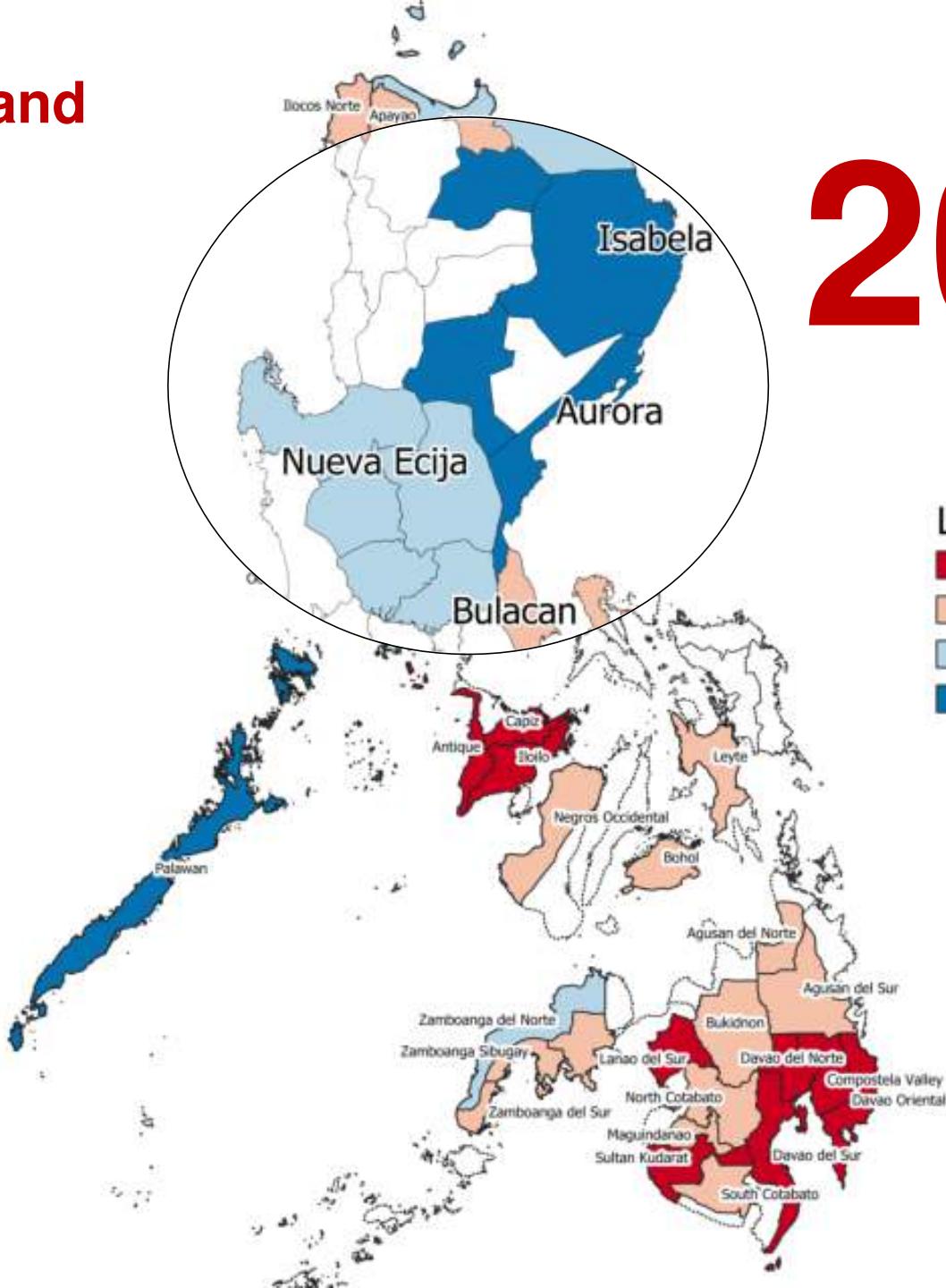
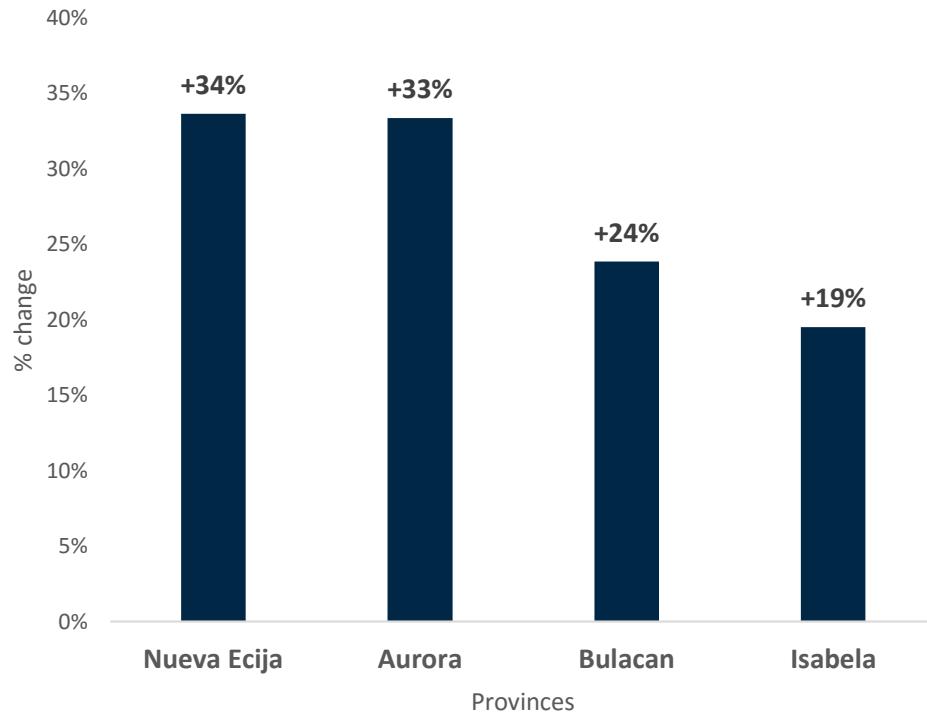
Ownership (%) of farm tools and implements

2016



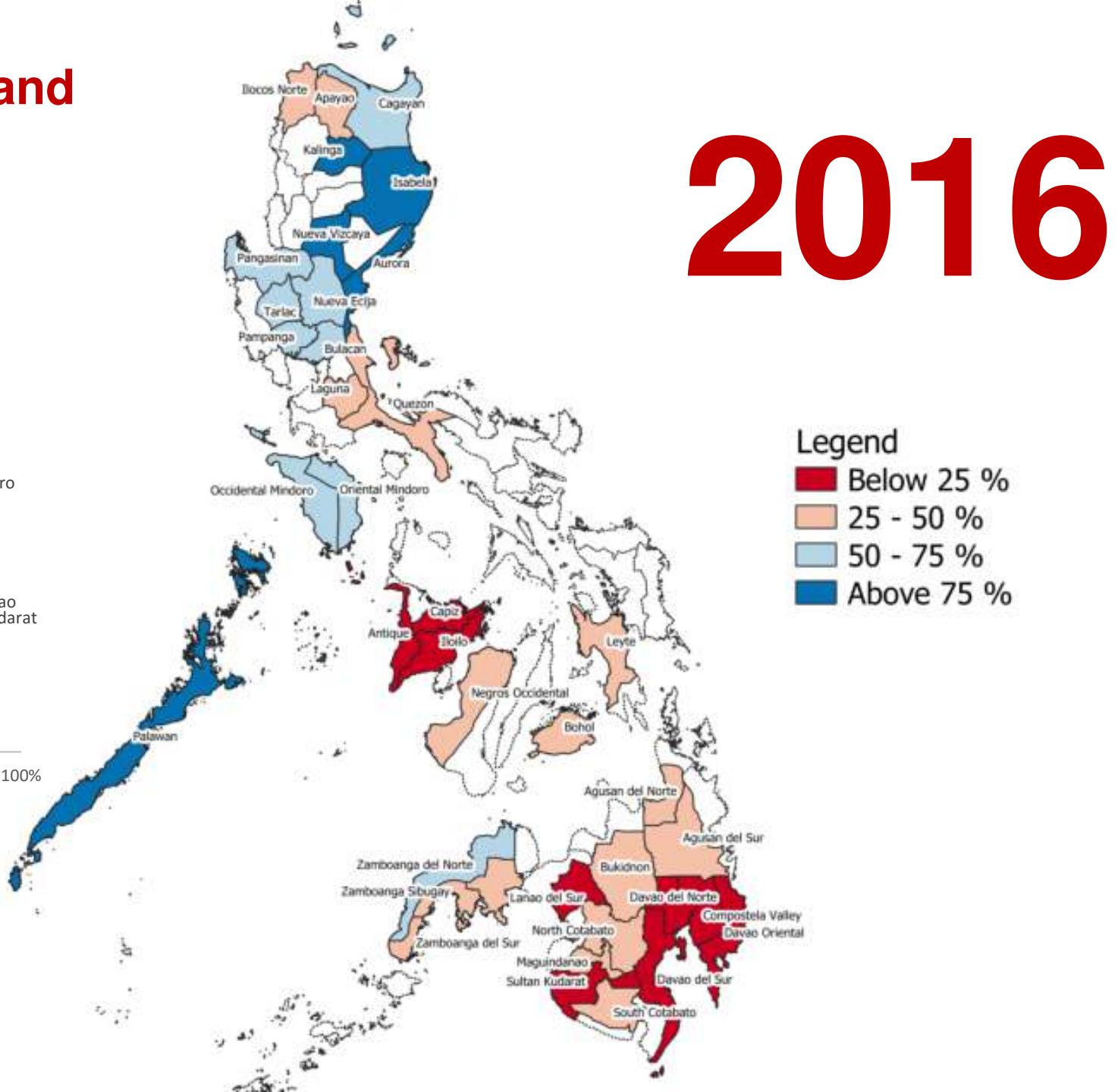
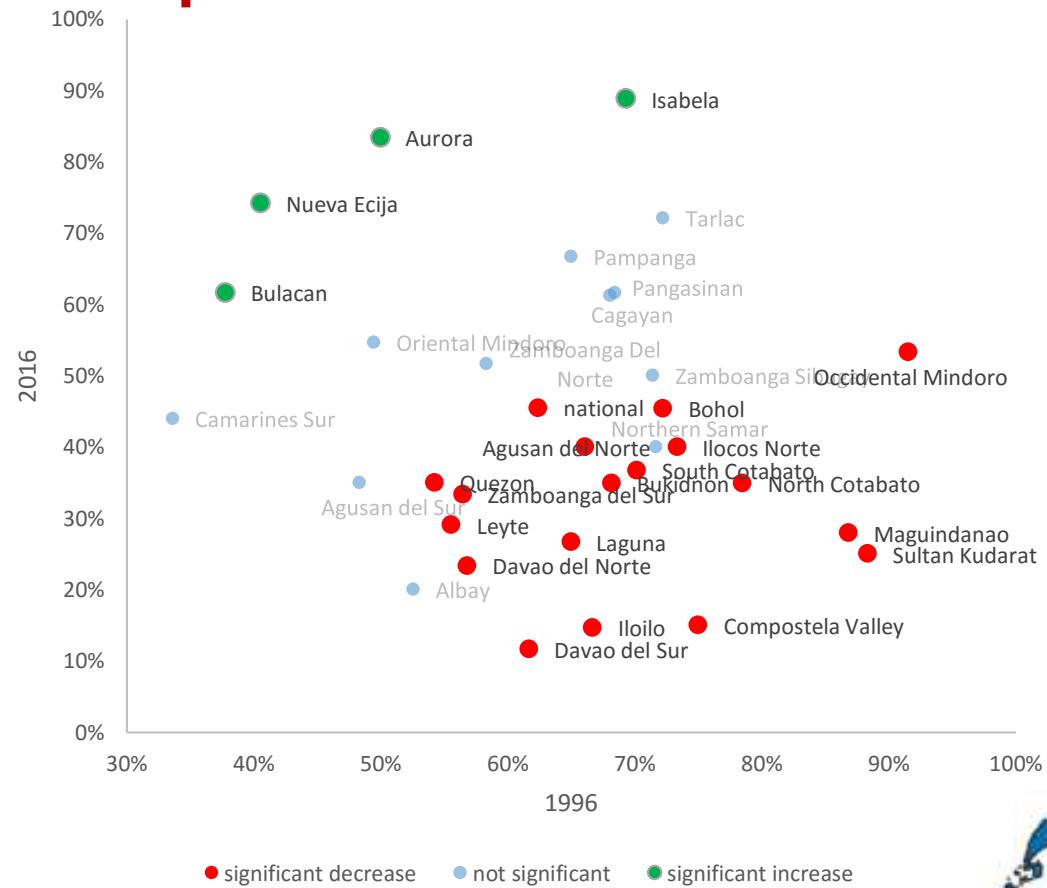
Ownership (%) of farm tools and implements

2016



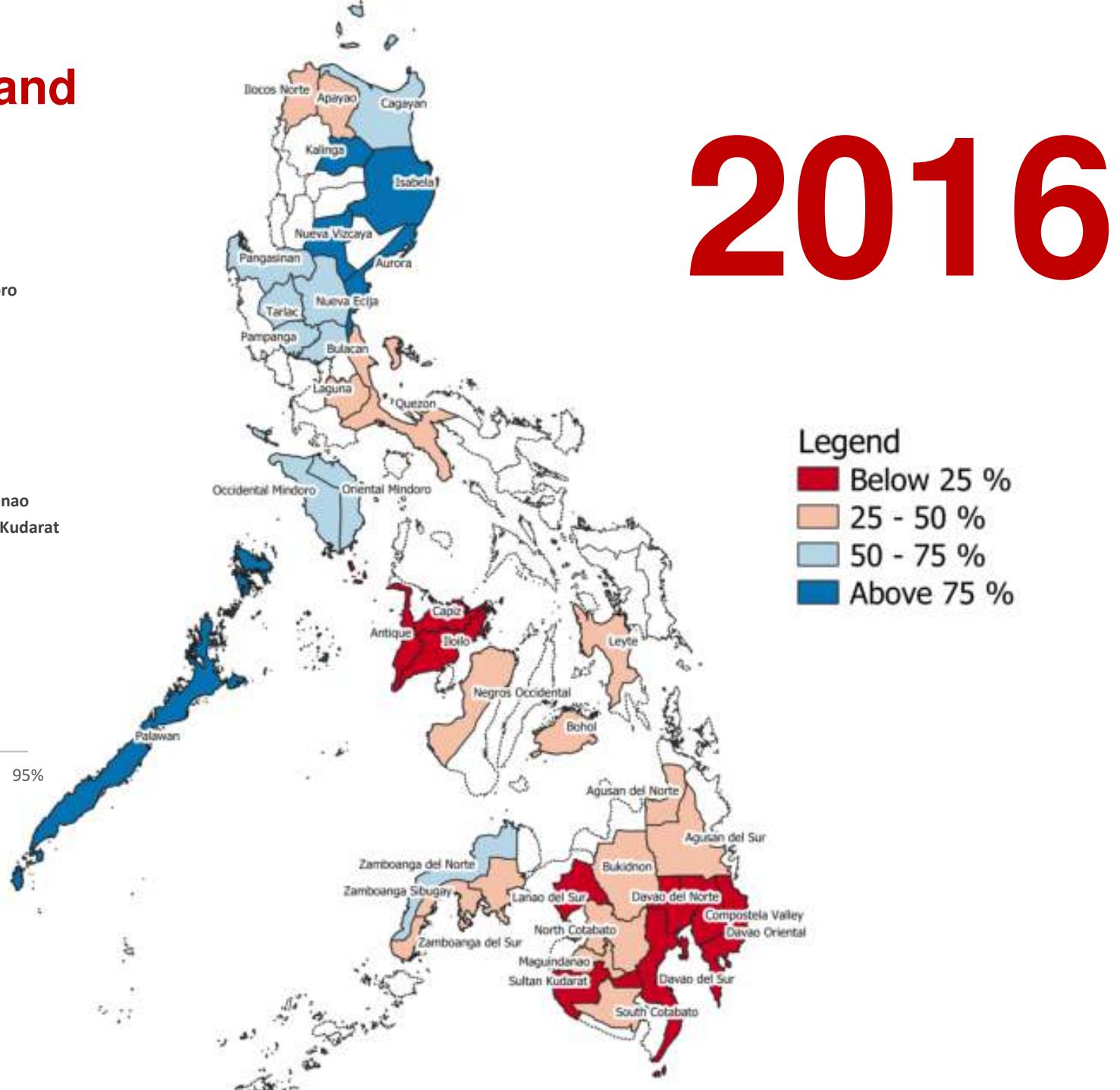
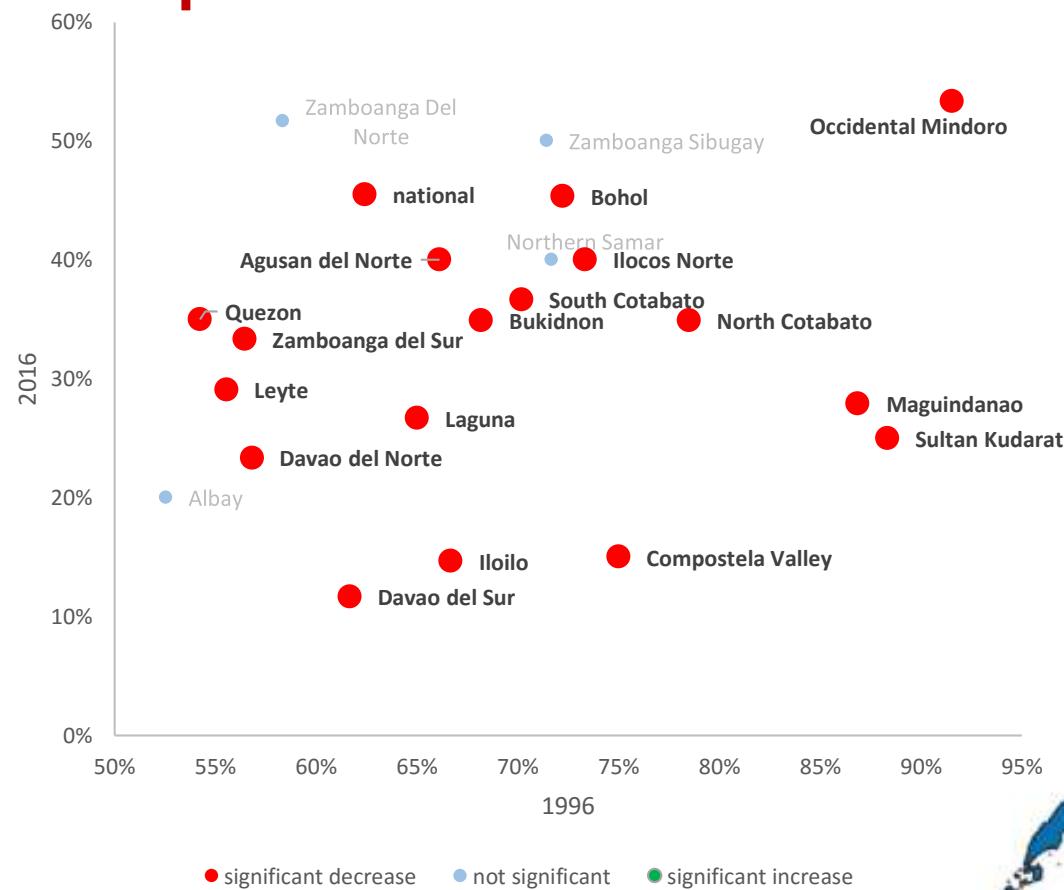
Ownership (%) of farm tools and implements

2016

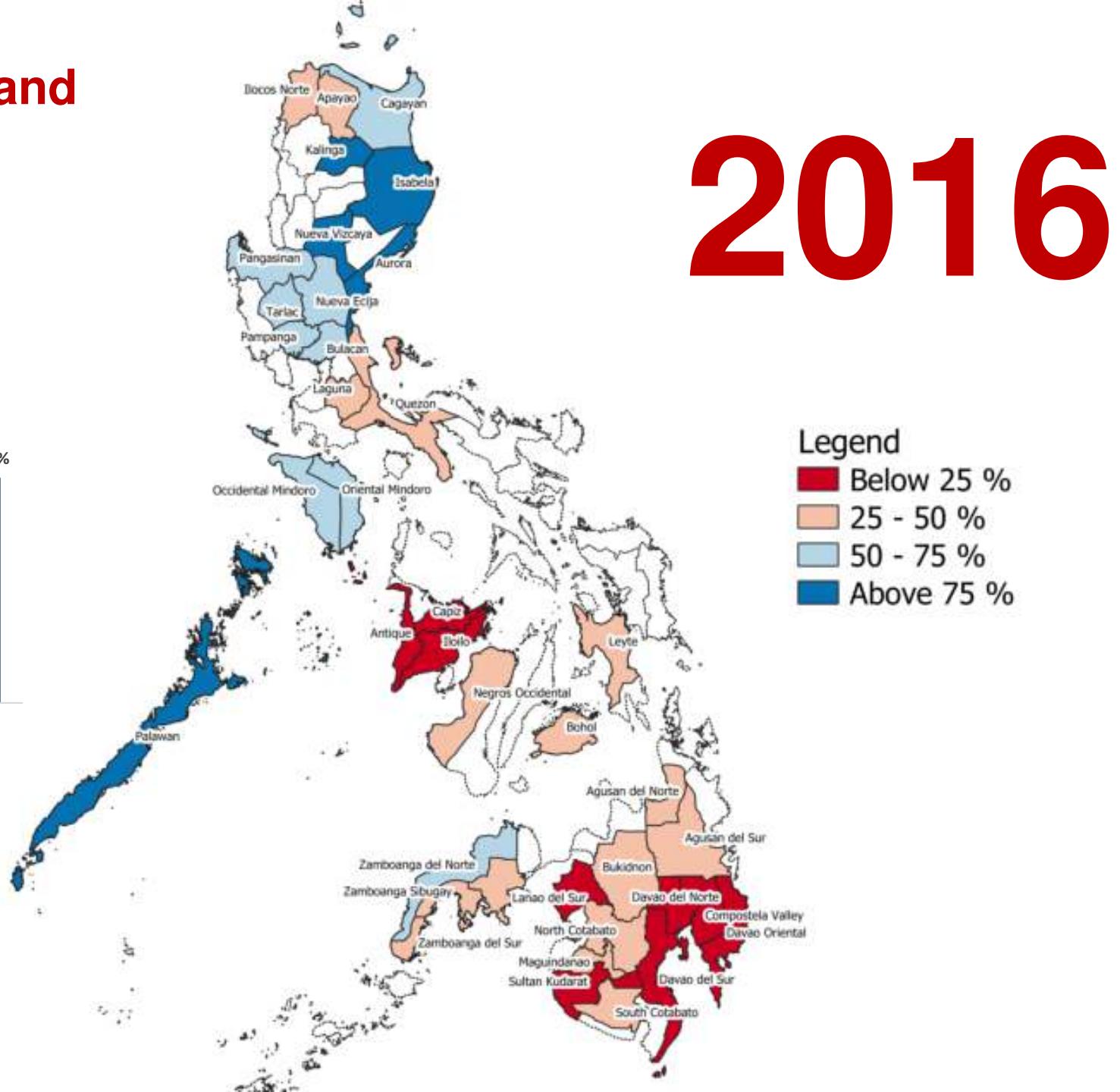
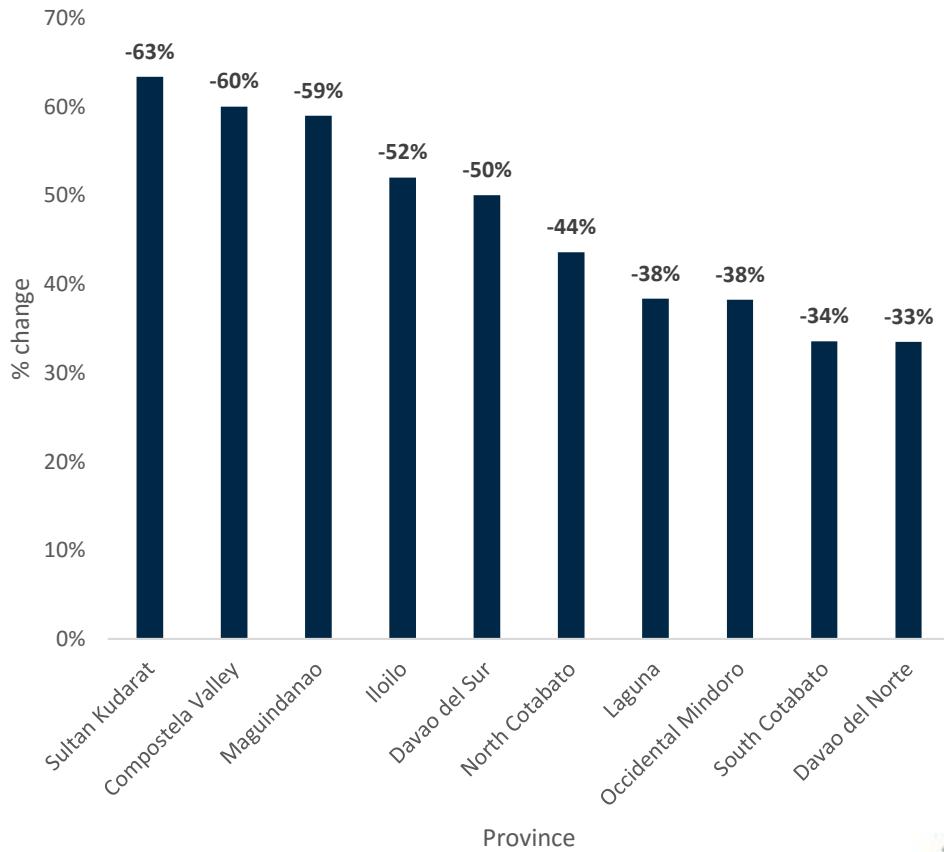


Ownership (%) of farm tools and implements

2016



Ownership (%) of farm tools and implements



2016

Farm Assets

Rice Farm land

Draft Animals

Farm Machineries

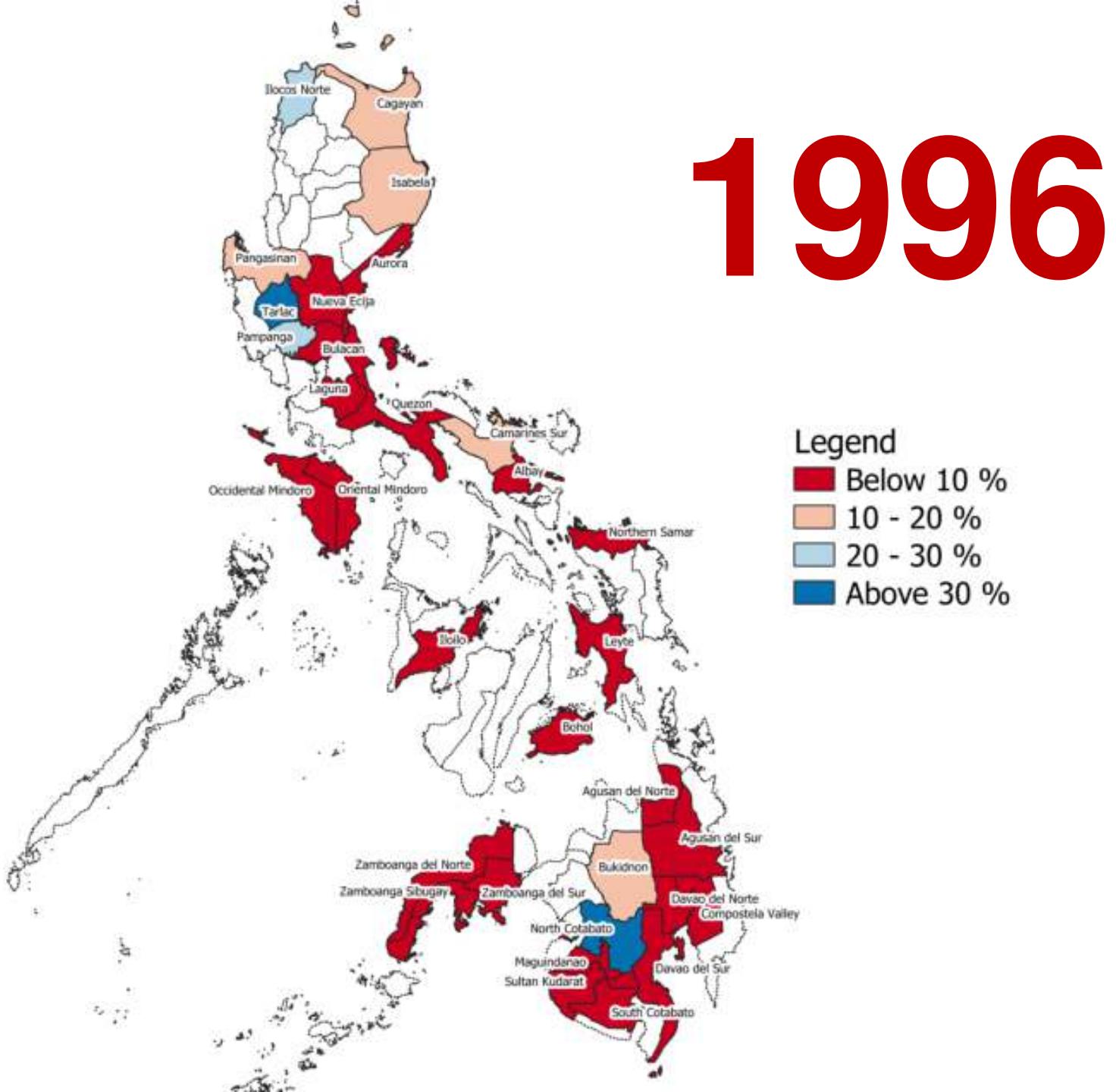
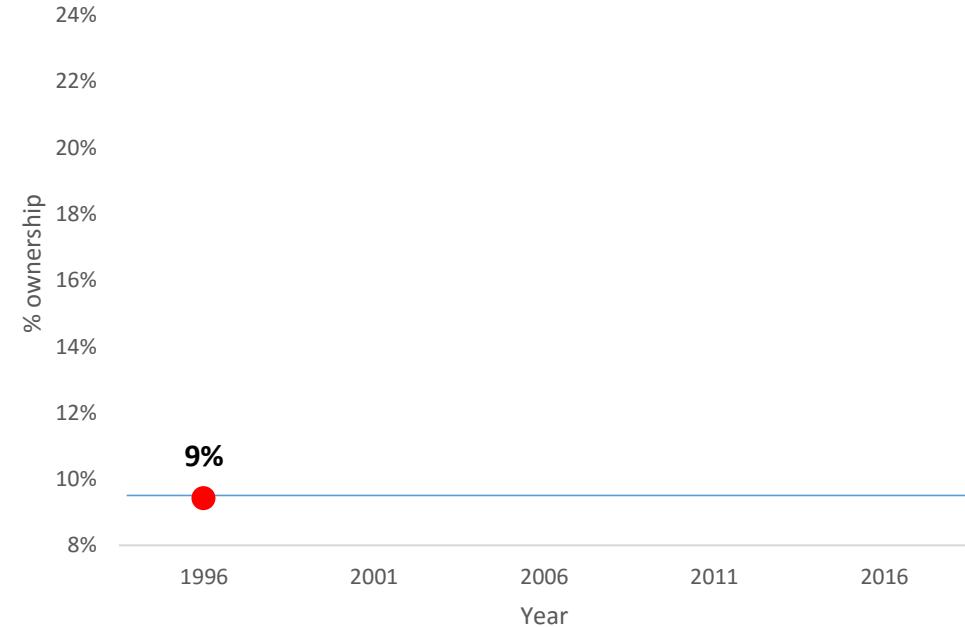
Farm tools and Implements

Irrigation equipment/facility

Post harvest facility

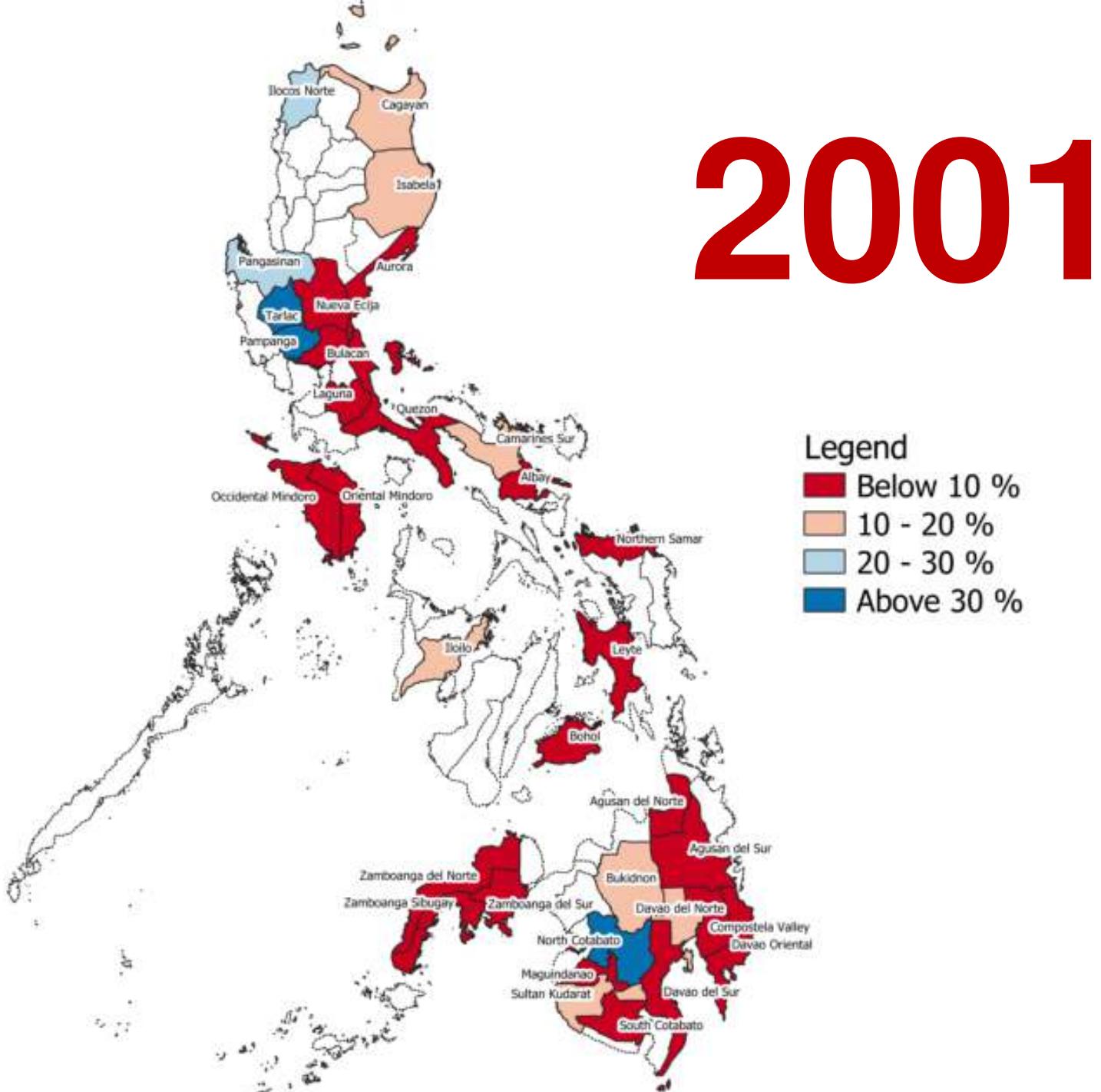
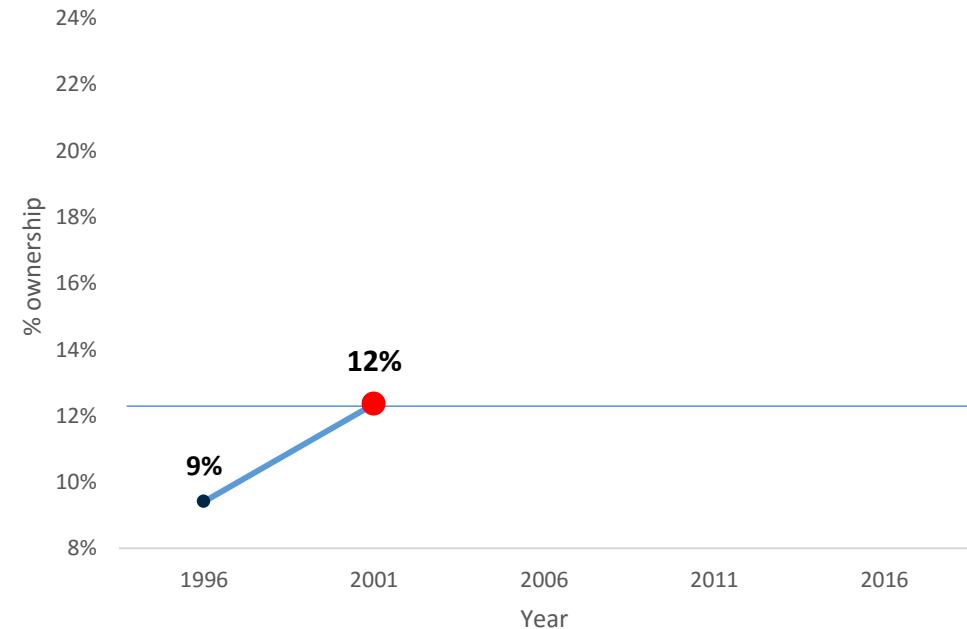
Ownership (%) of irrigation equipment/facilities

1996

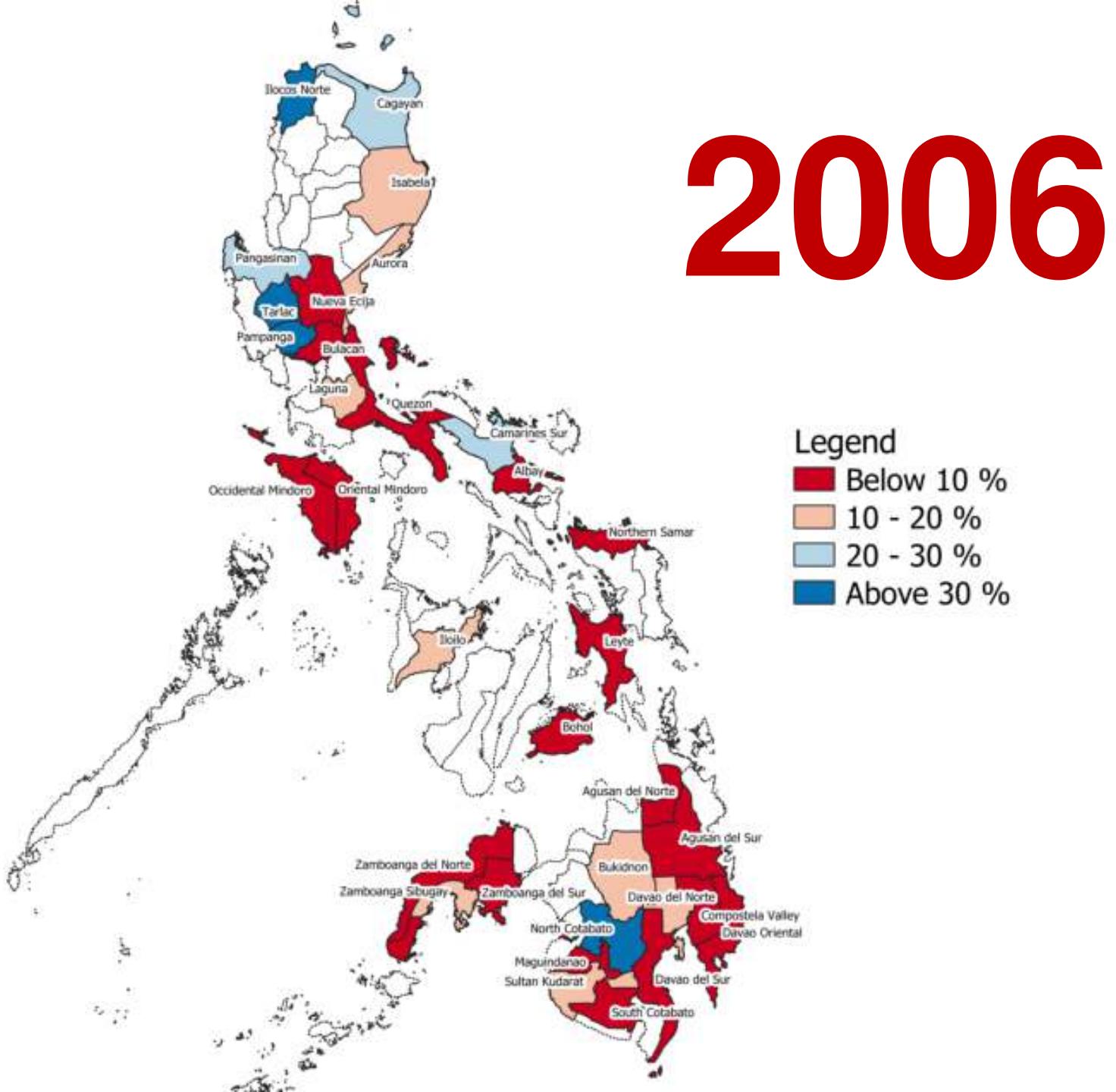
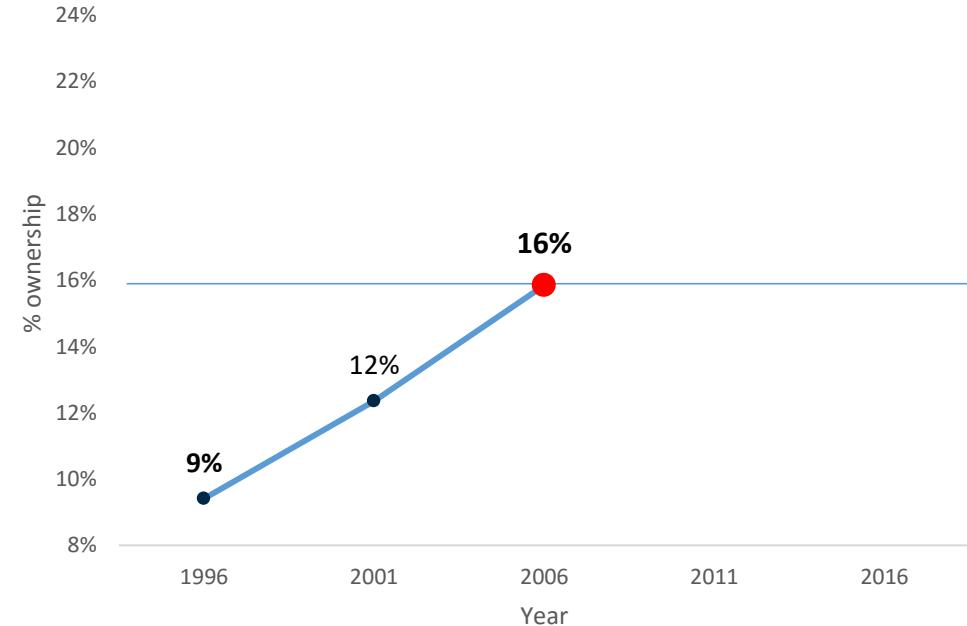


Ownership (%) of irrigation equipment/facilities

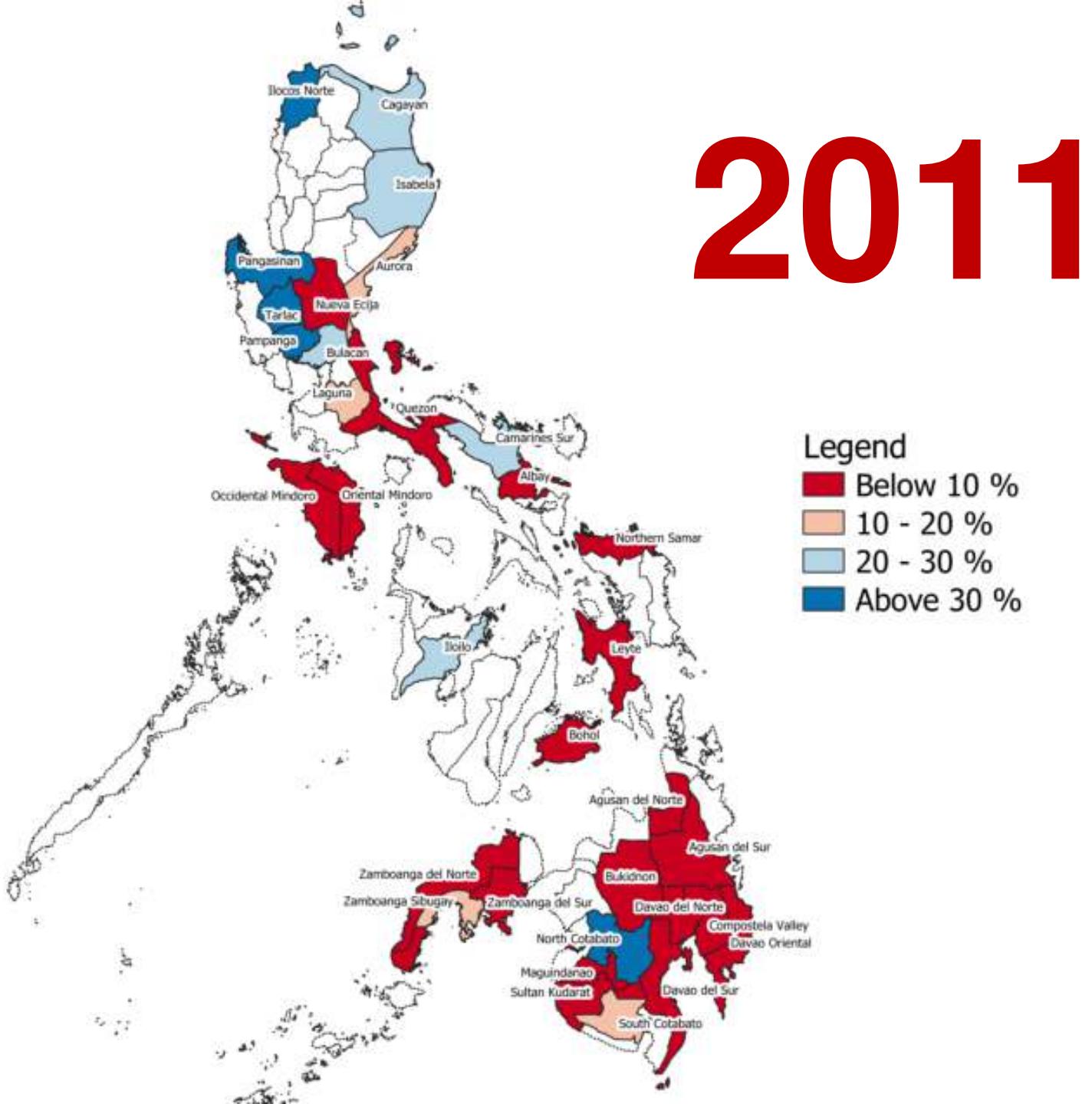
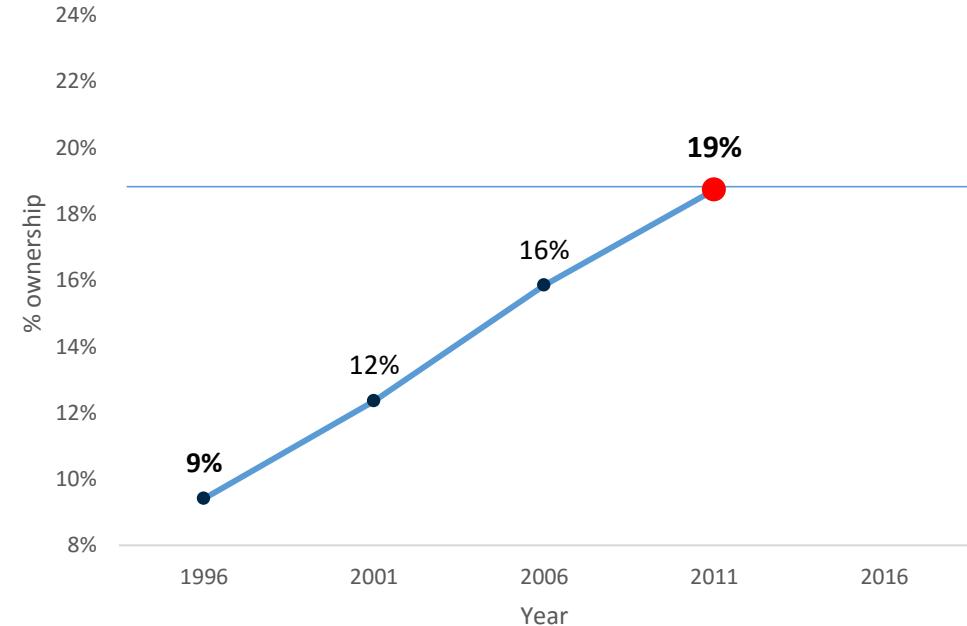
2001



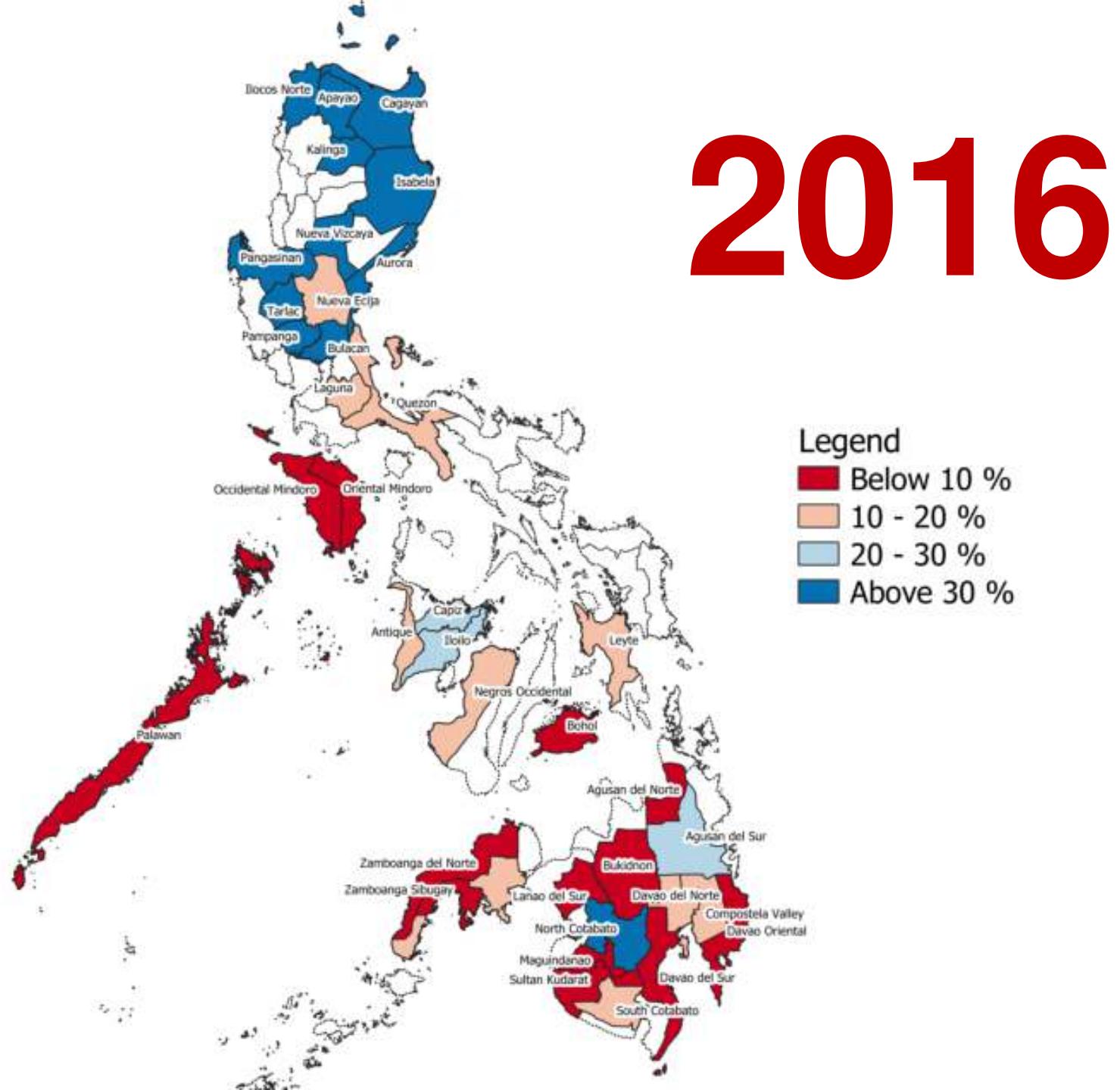
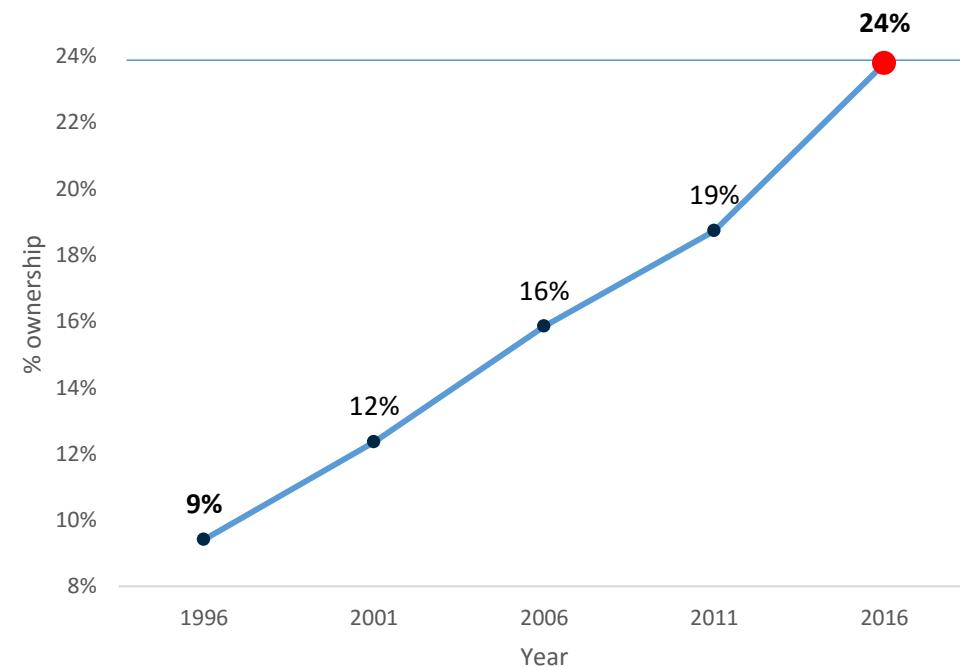
Ownership (%) of irrigation equipment/facilities



Ownership (%) of irrigation equipment/facilities

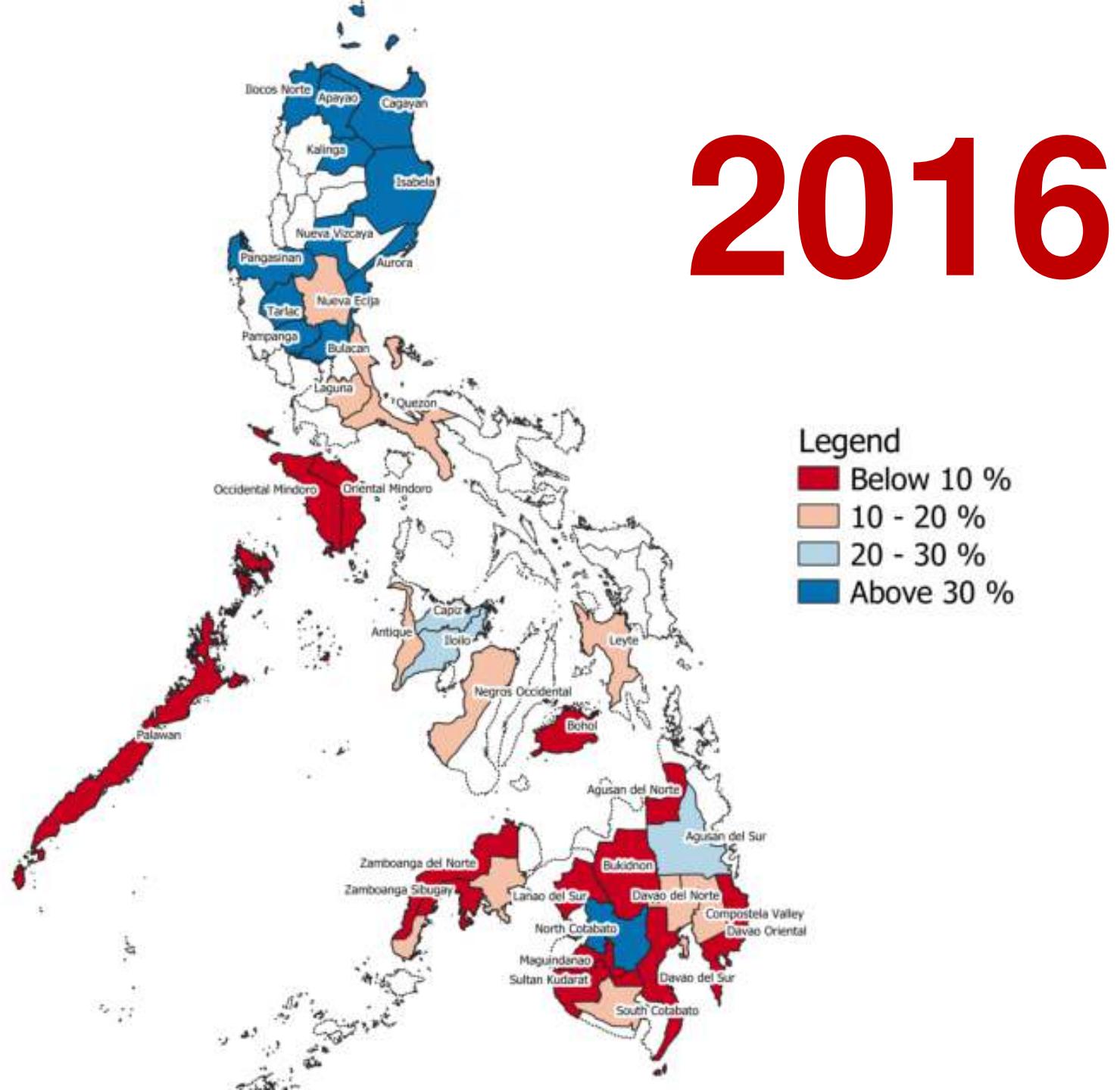
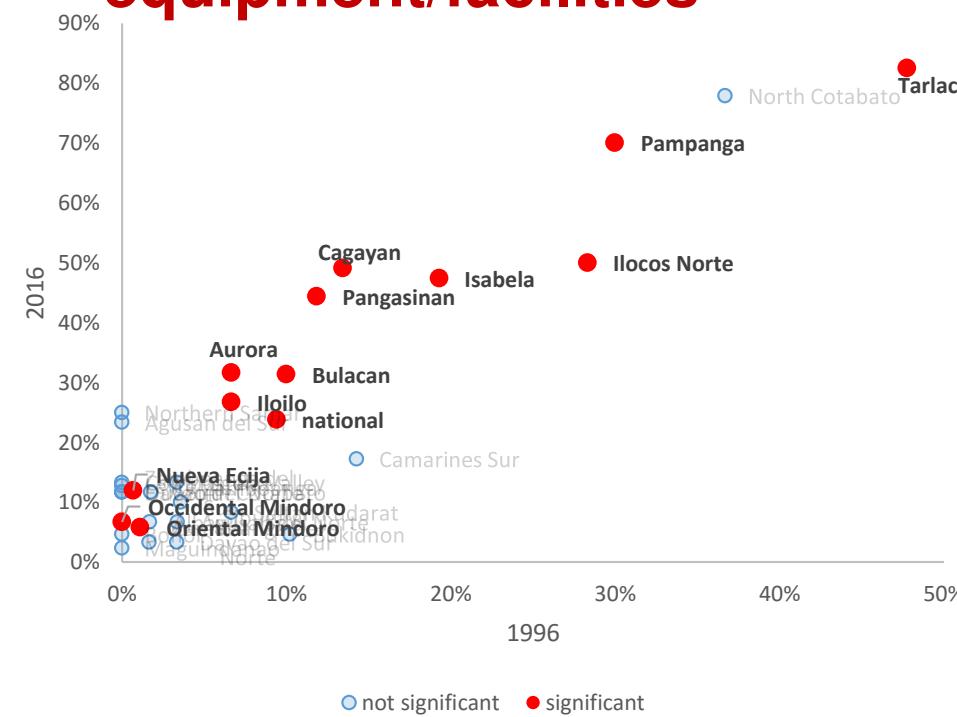


Ownership (%) of irrigation equipment/facilities



Ownership (%) of irrigation equipment/facilities

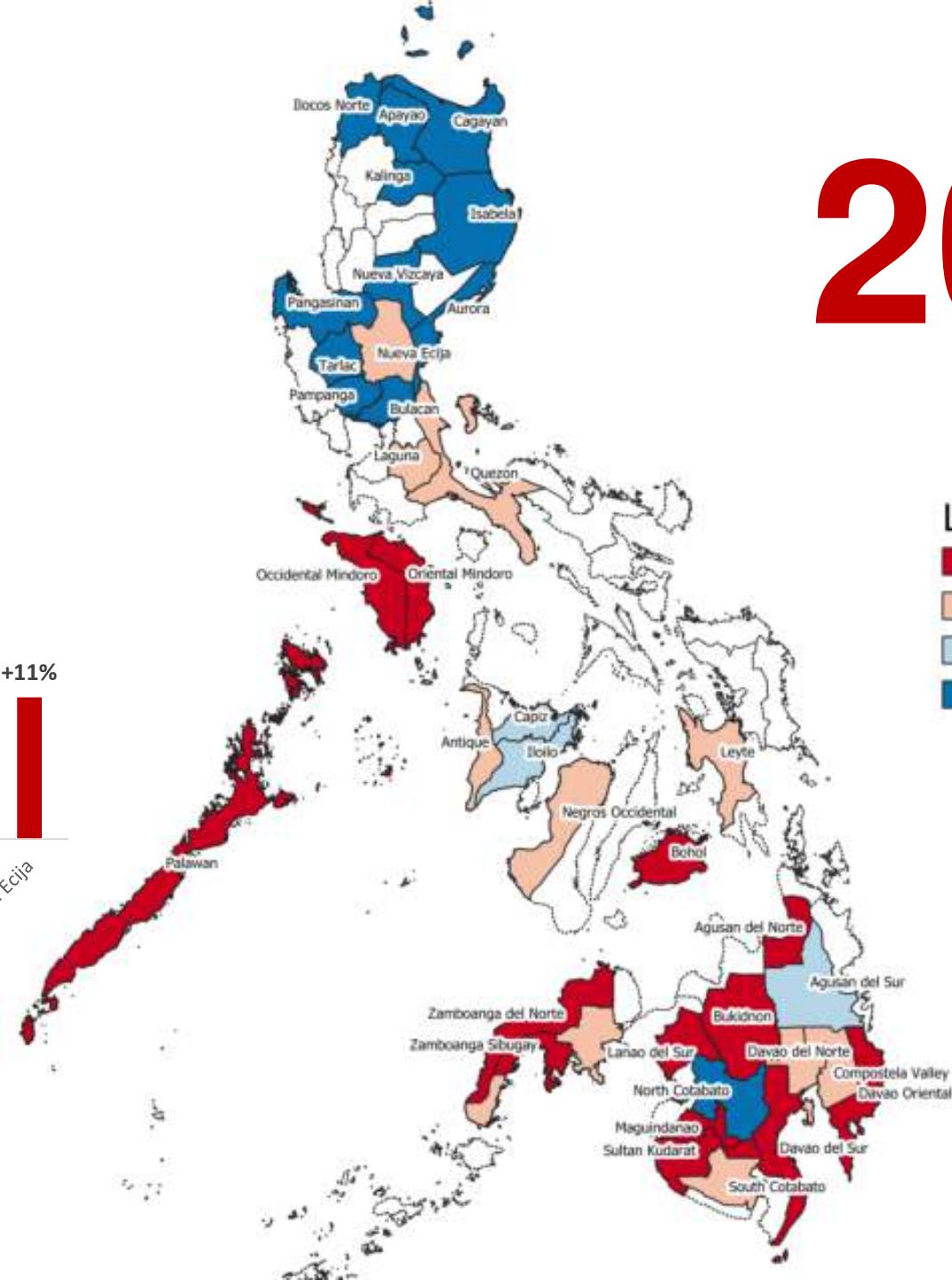
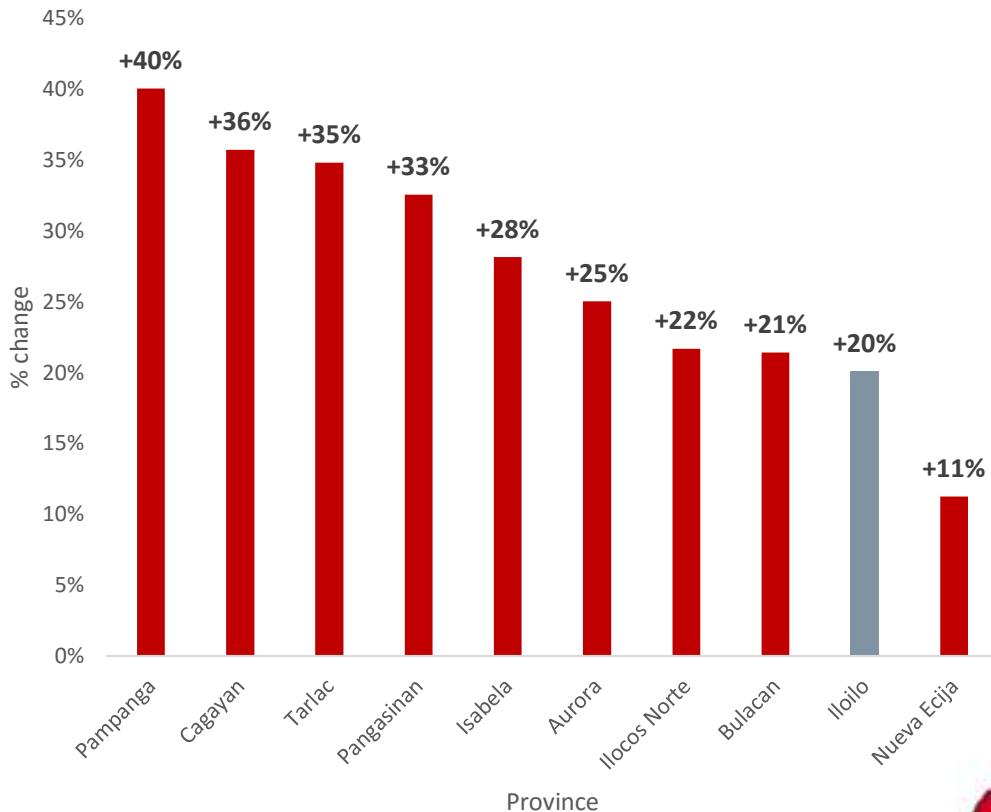
2016



Legend

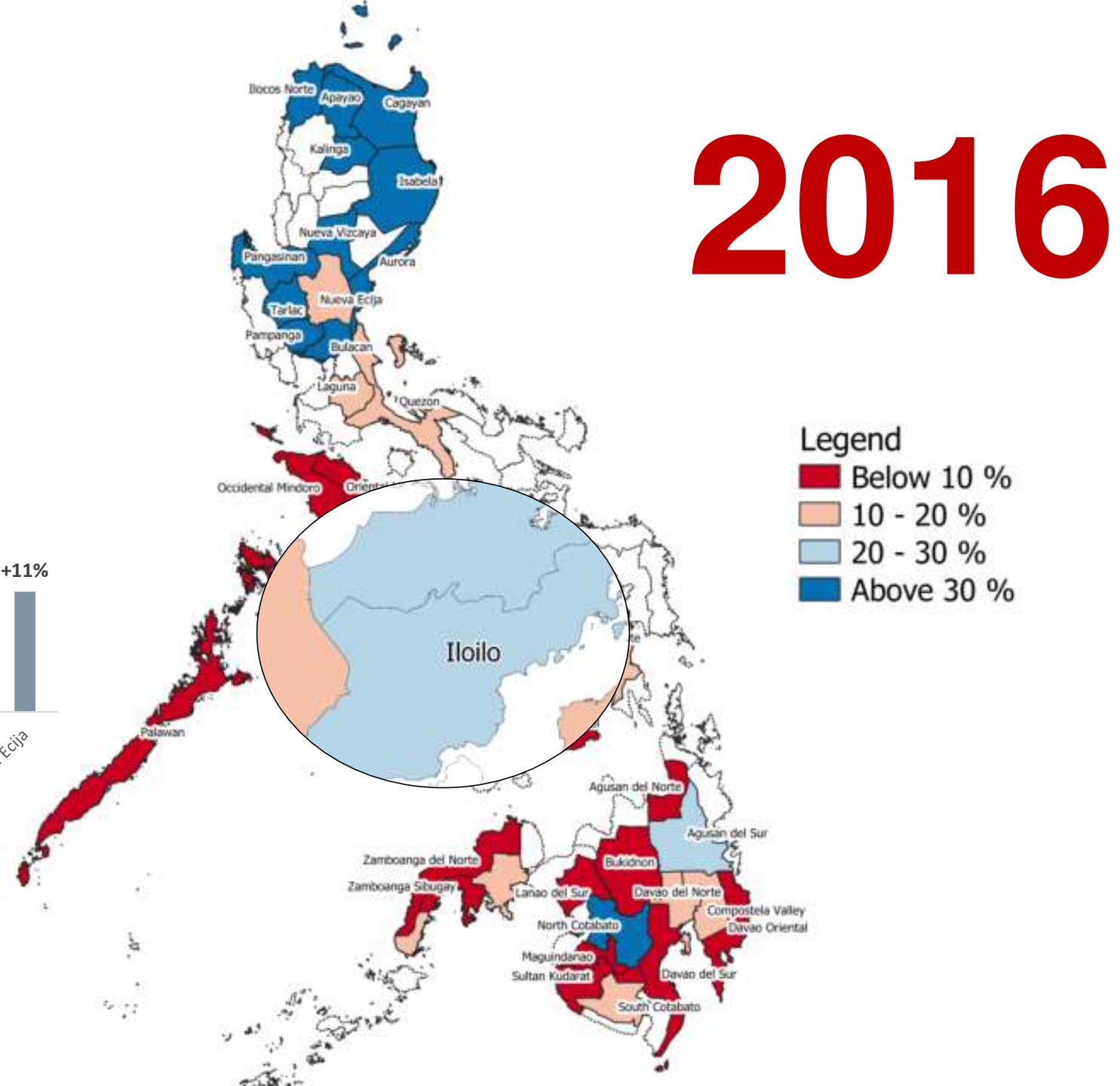
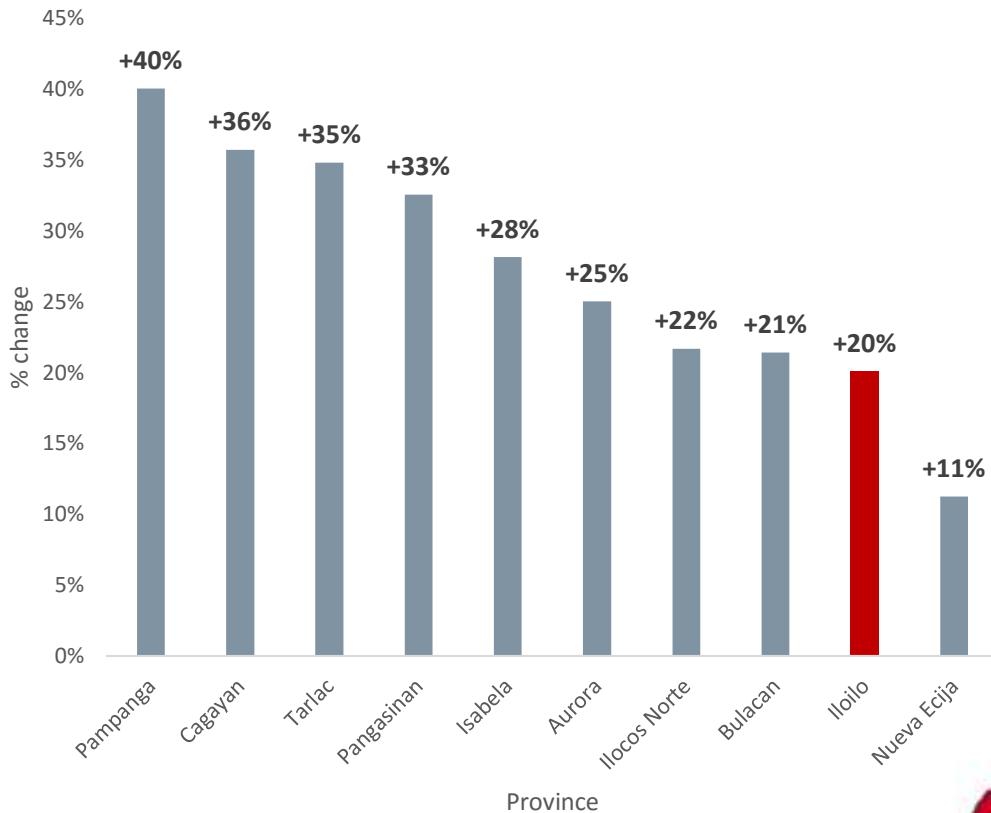
- Below 10 %
- 10 - 20 %
- 20 - 30 %
- Above 30 %

Ownership (%) of irrigation equipment/facilities



2016

Ownership (%) of irrigation equipment/facilities



Farm Assets

Rice Farm land

Draft Animals

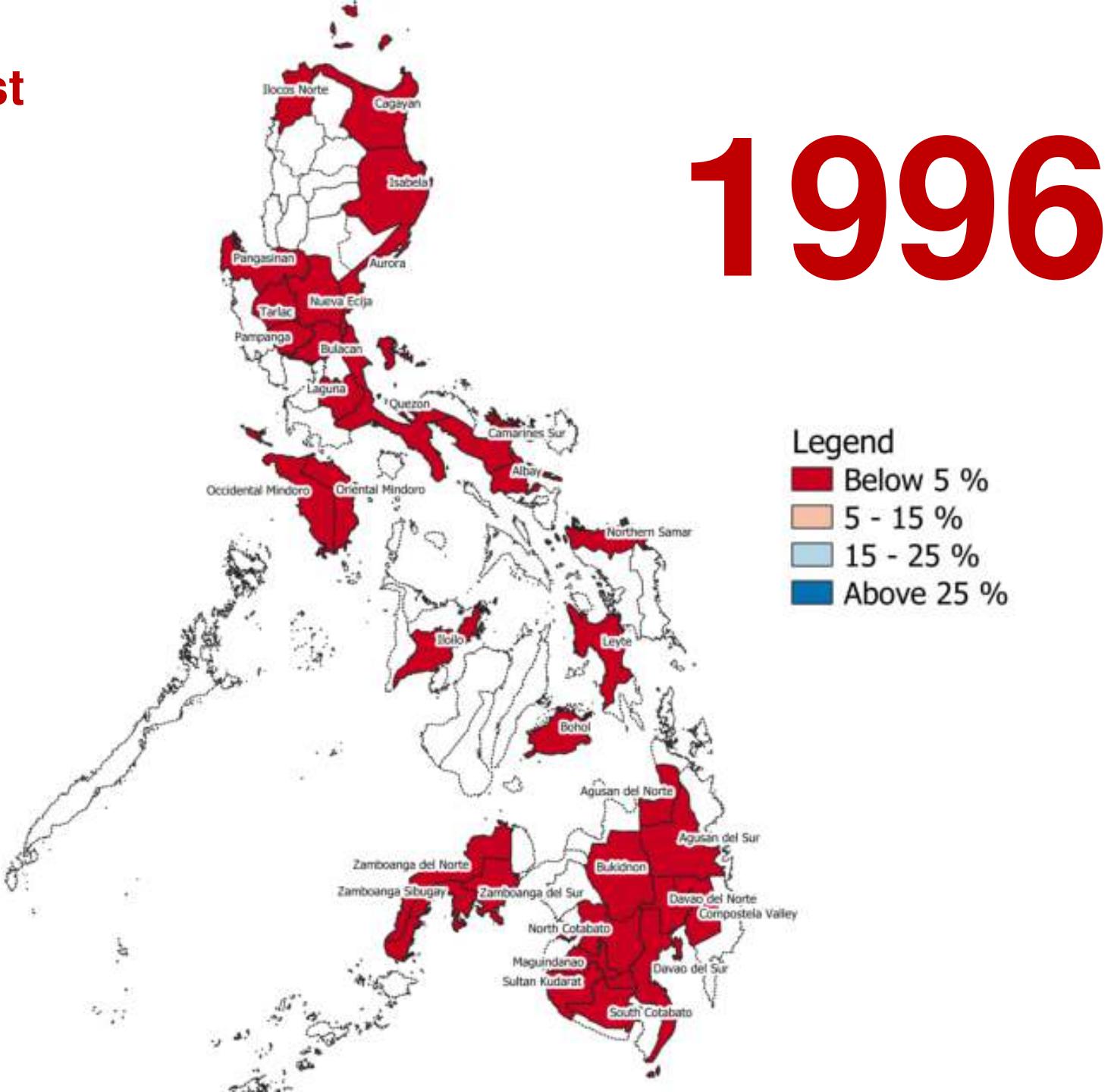
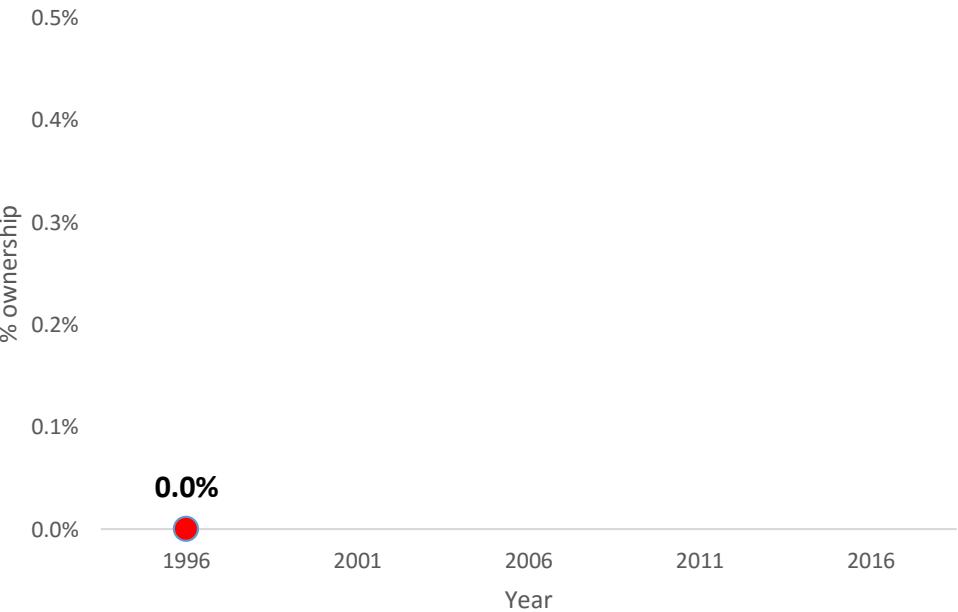
Farm Machineries

Farm tools and Implements

Irrigation equipment/facility

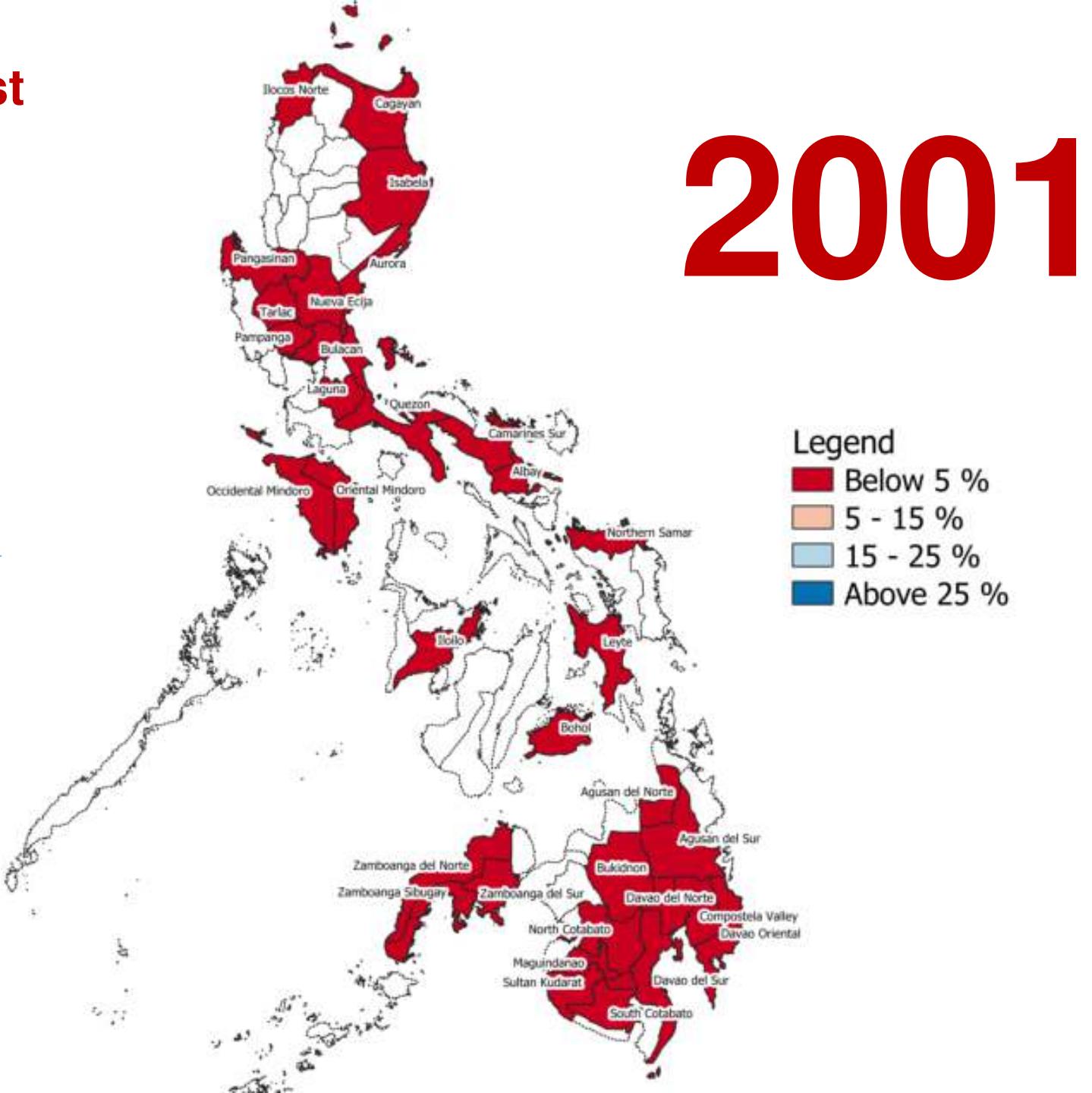
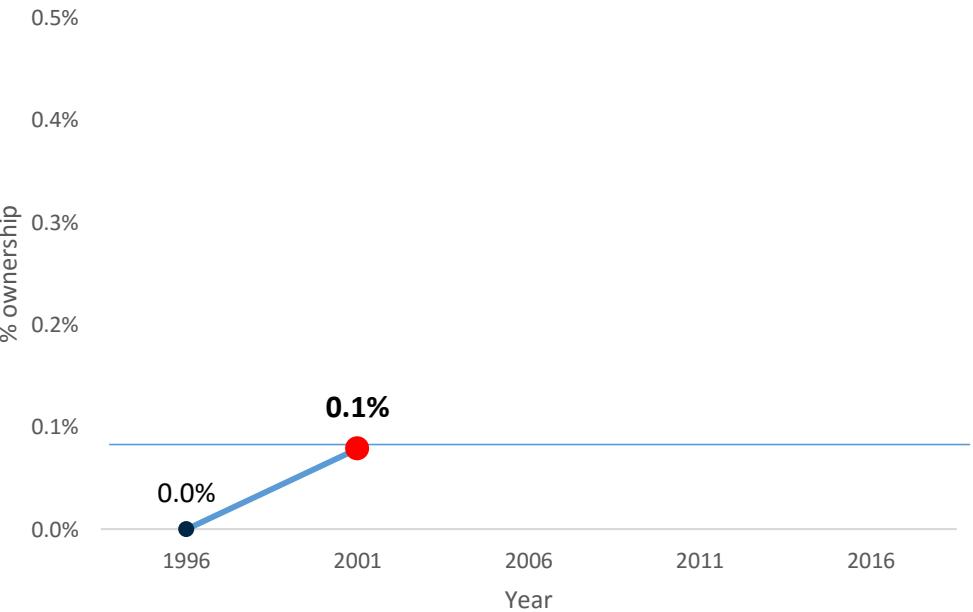
Post harvest facility

Ownership (%) of post harvest facilities



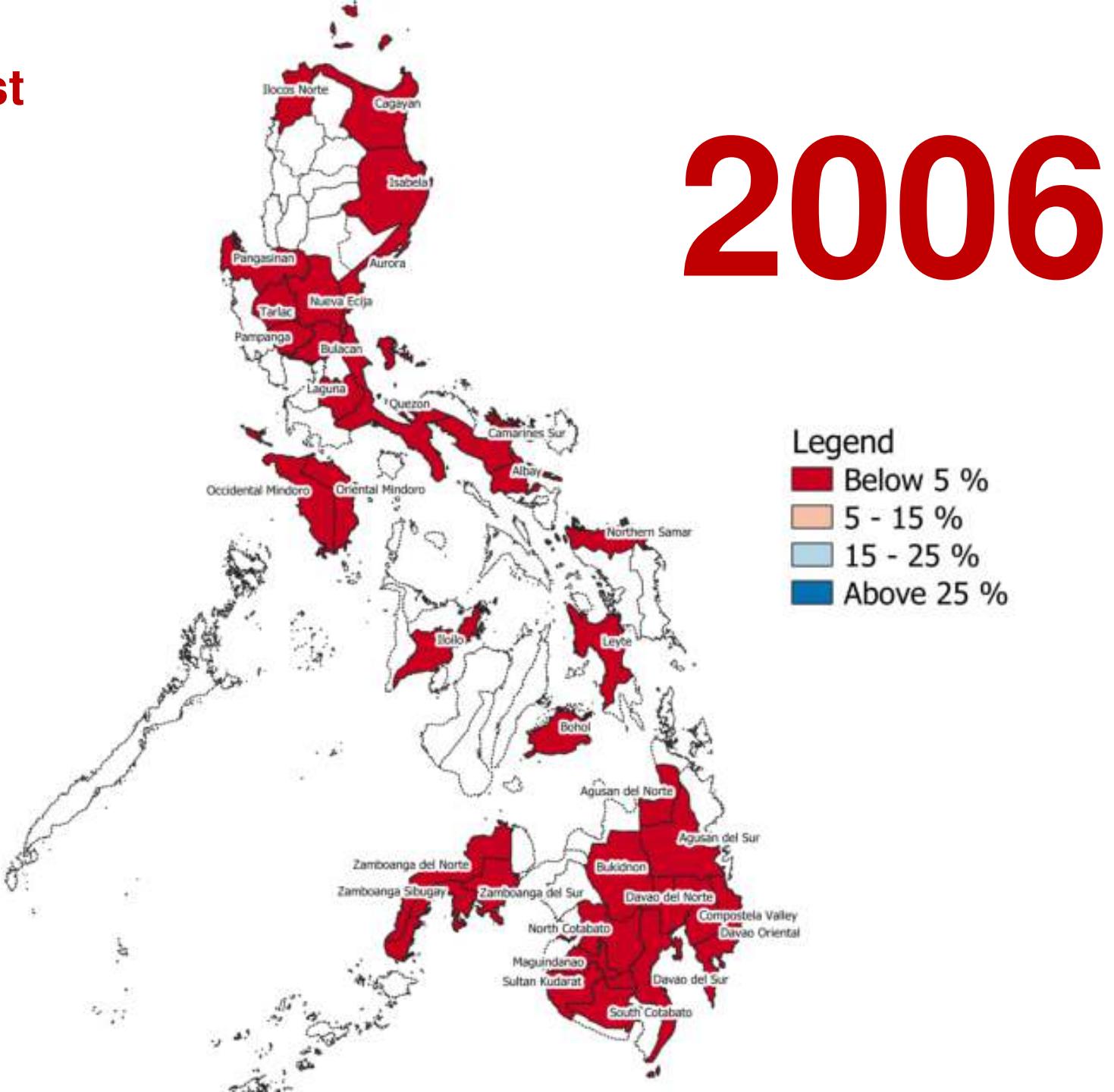
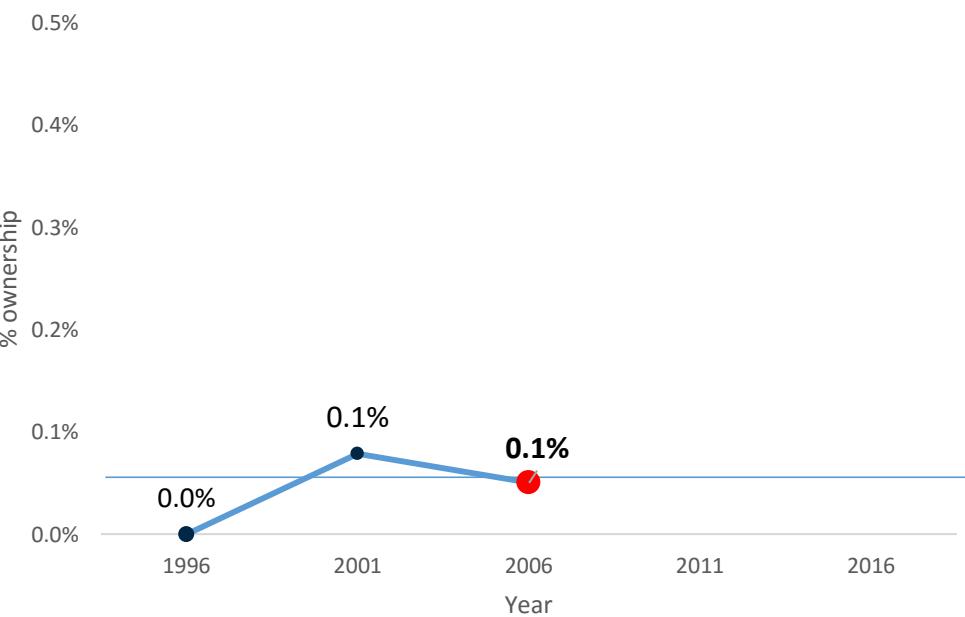
1996

Ownership (%) of post harvest facilities

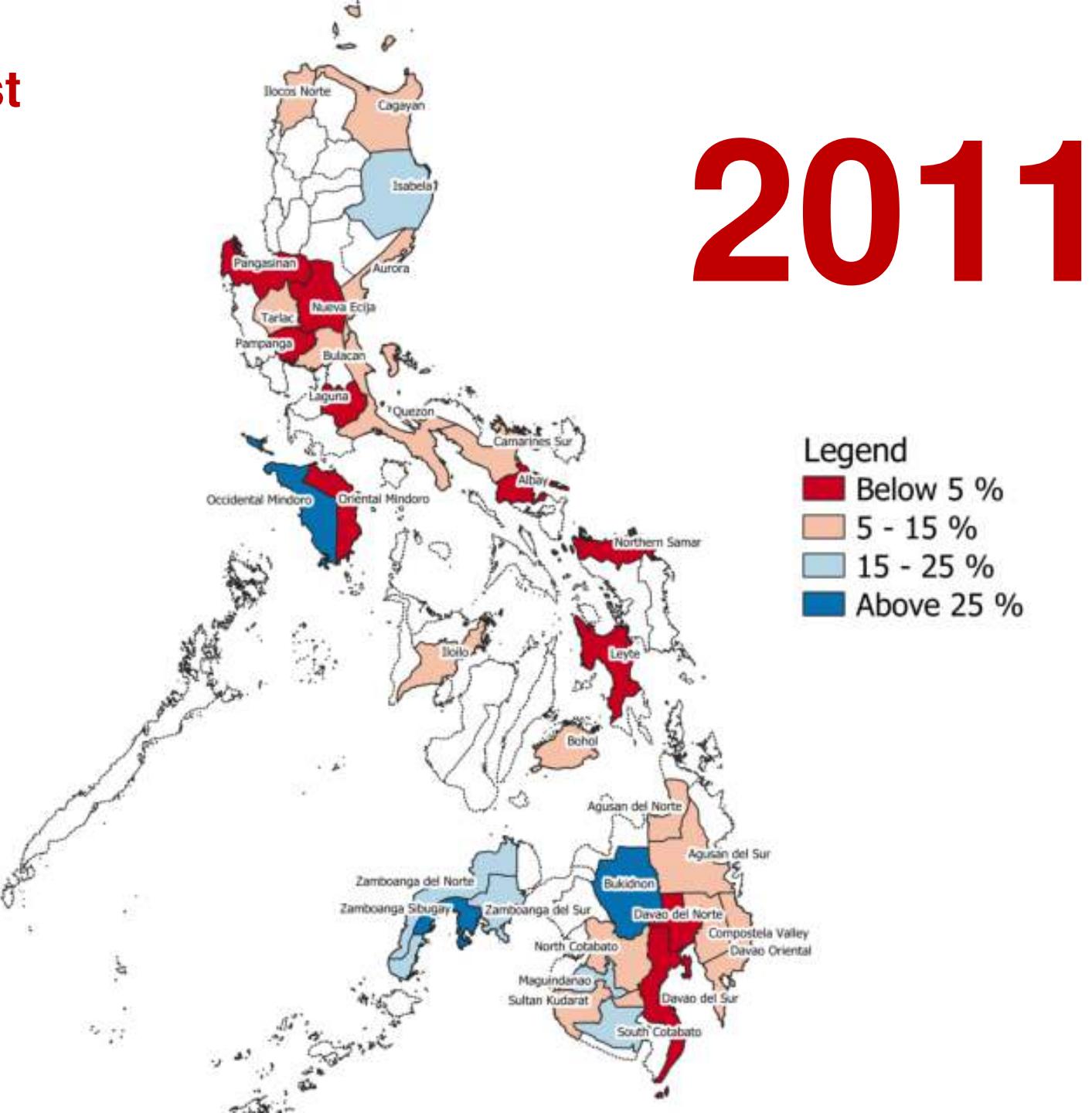
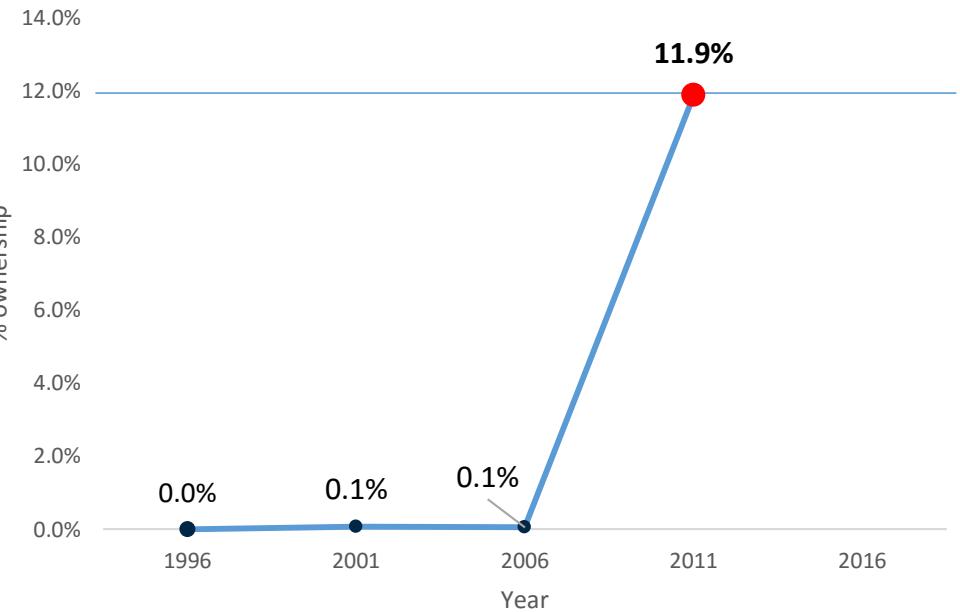


2001

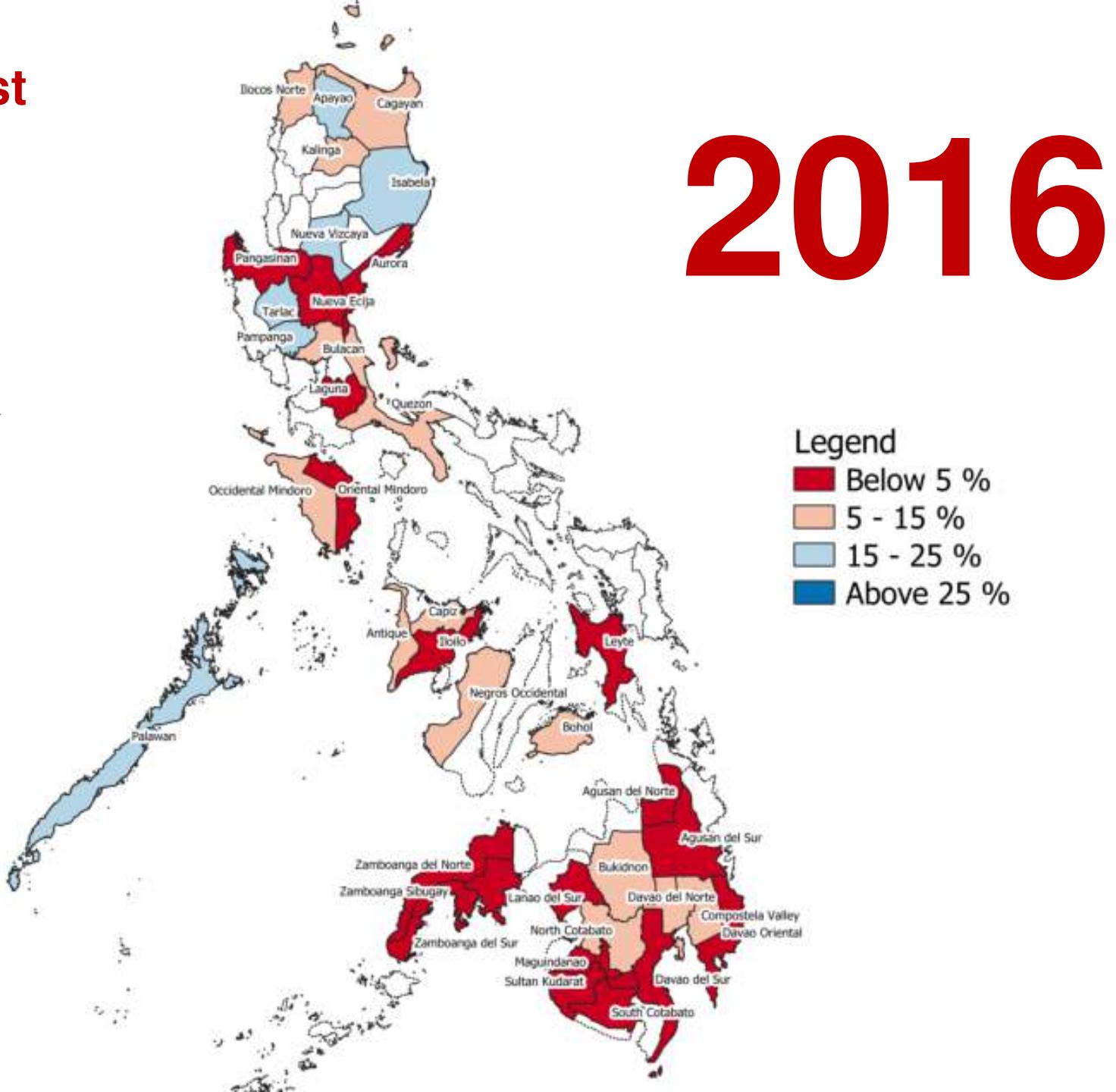
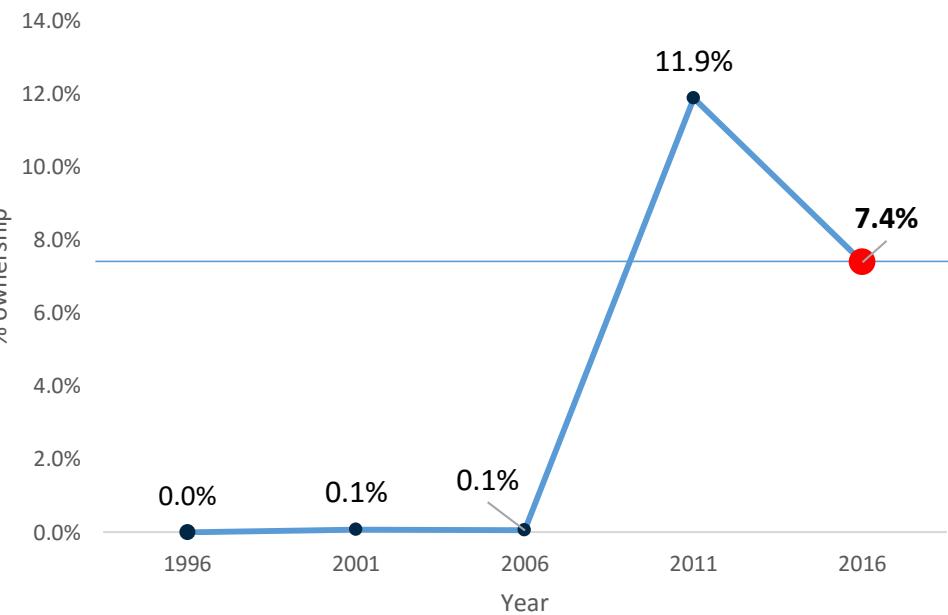
Ownership (%) of post harvest facilities



Ownership (%) of post harvest facilities

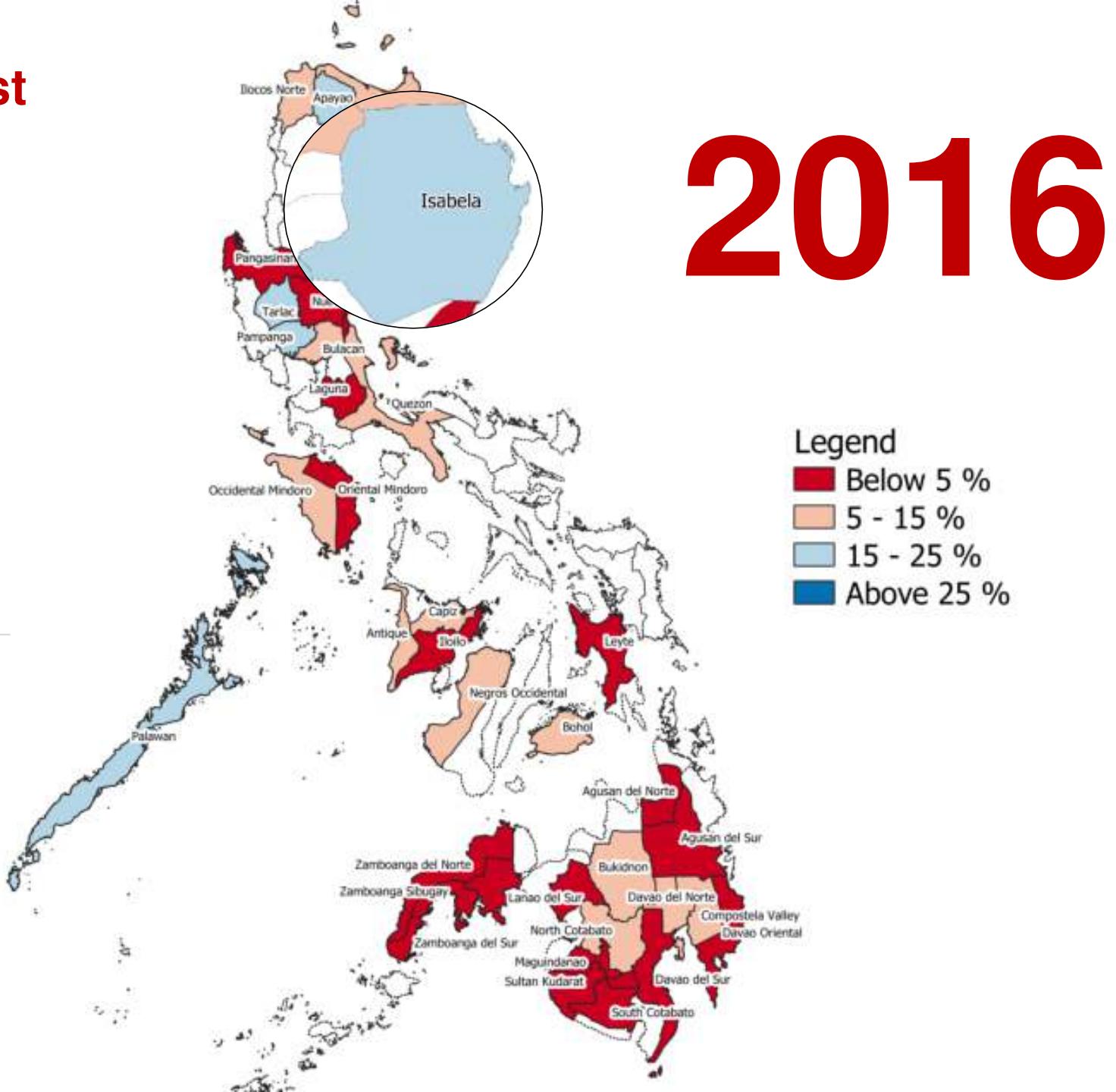
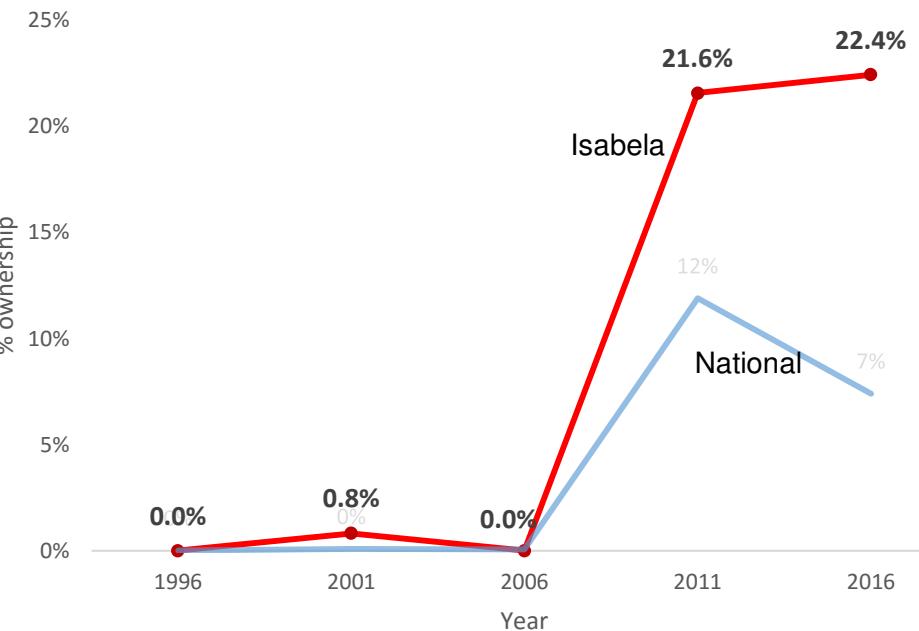


Ownership (%) of post harvest facilities



2016

Ownership (%) of post harvest facilities



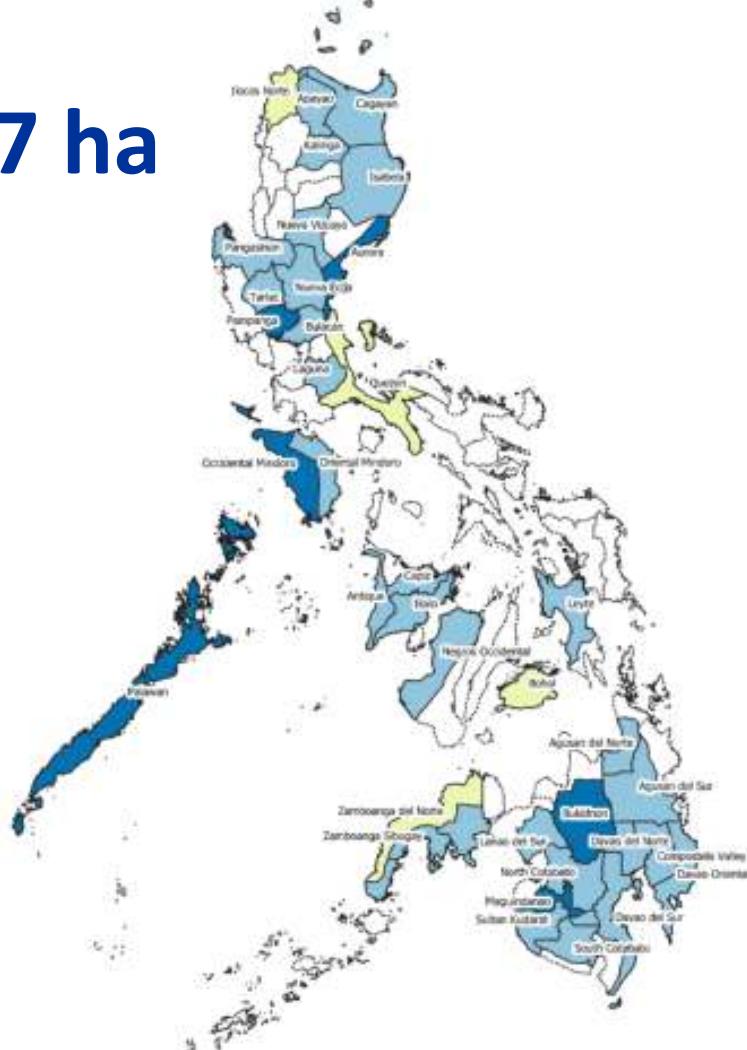
2016

Actual land use

2016

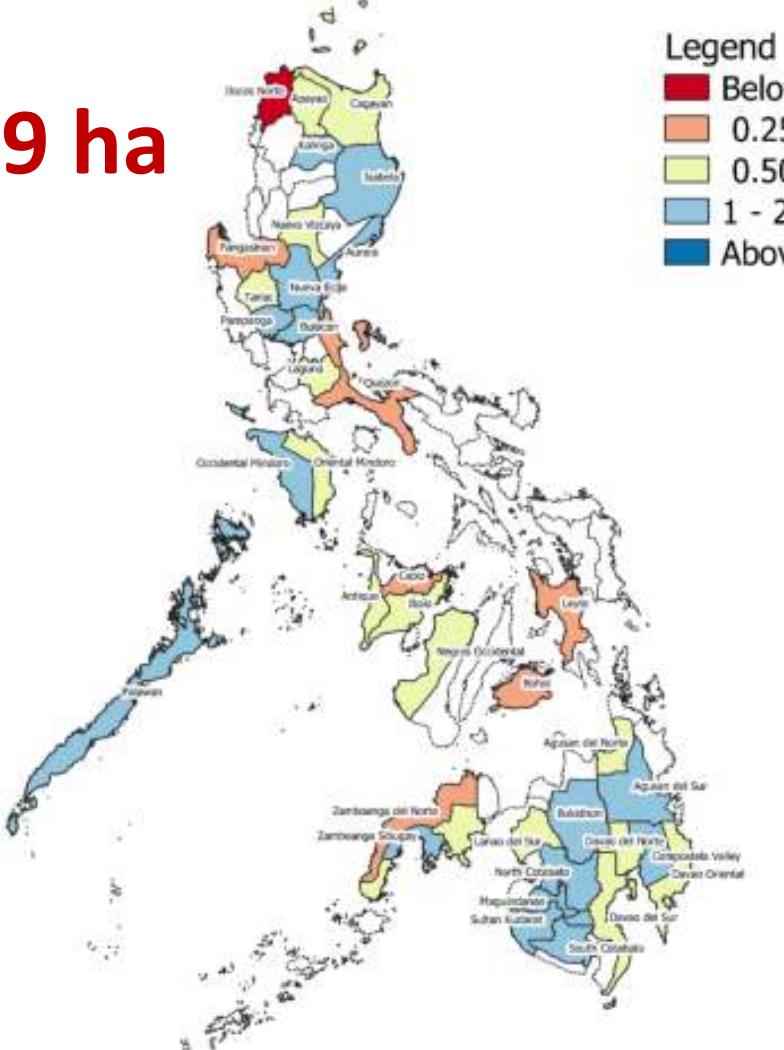
Average area planted (ha) vs Average area owned (ha), by province, 2016

1.47 ha



Average area planted (ha)

0.9 ha

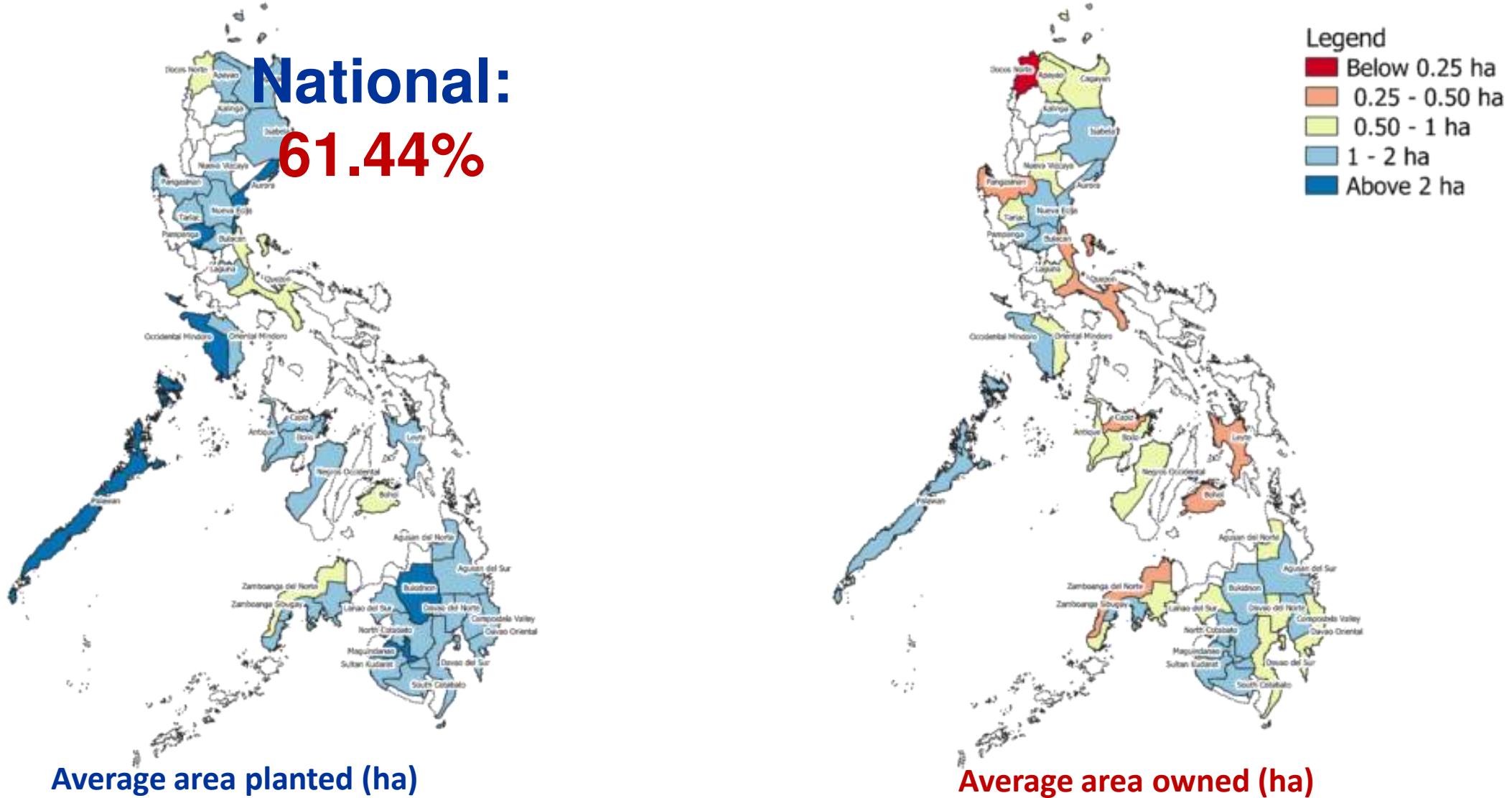


Average area owned (ha)

Legend

- Below 0.25 ha
- 0.25 - 0.50 ha
- 0.50 - 1 ha
- 1 - 2 ha
- Above 2 ha

Average area planted (ha) vs Average area owned (ha), by province, 2016



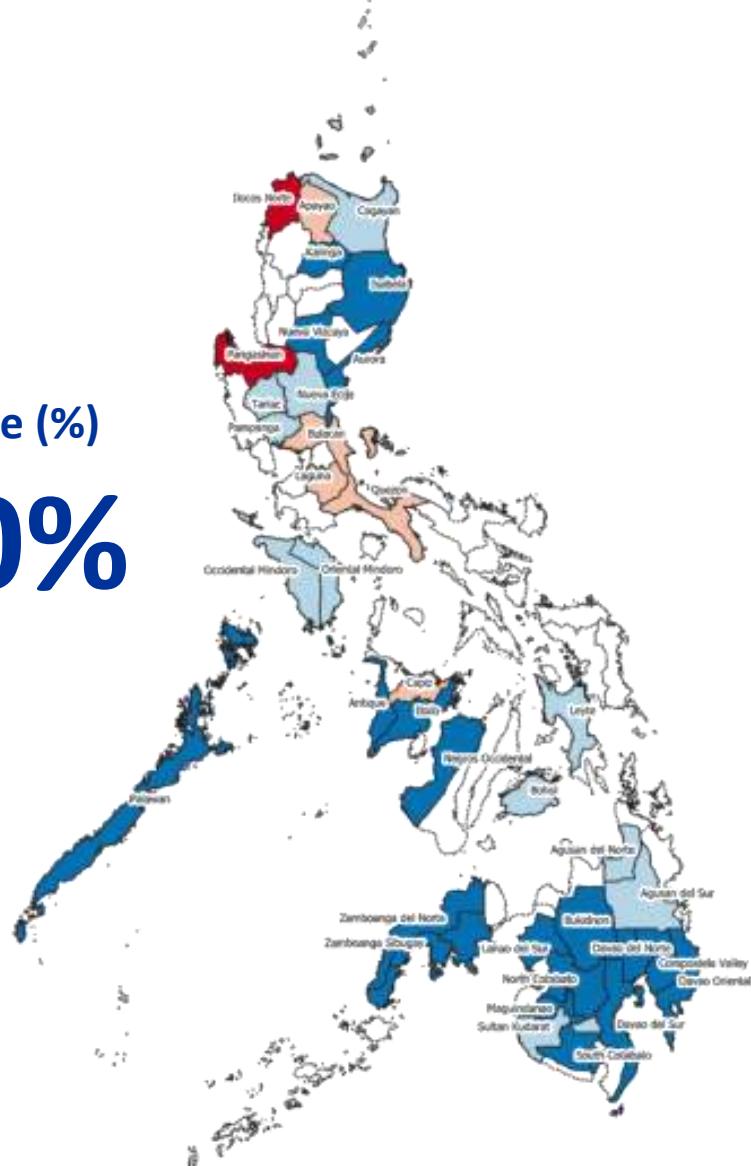
Actual use of animal/machine

2016

Draft animals: Actual use vs ownership, by province, 2016

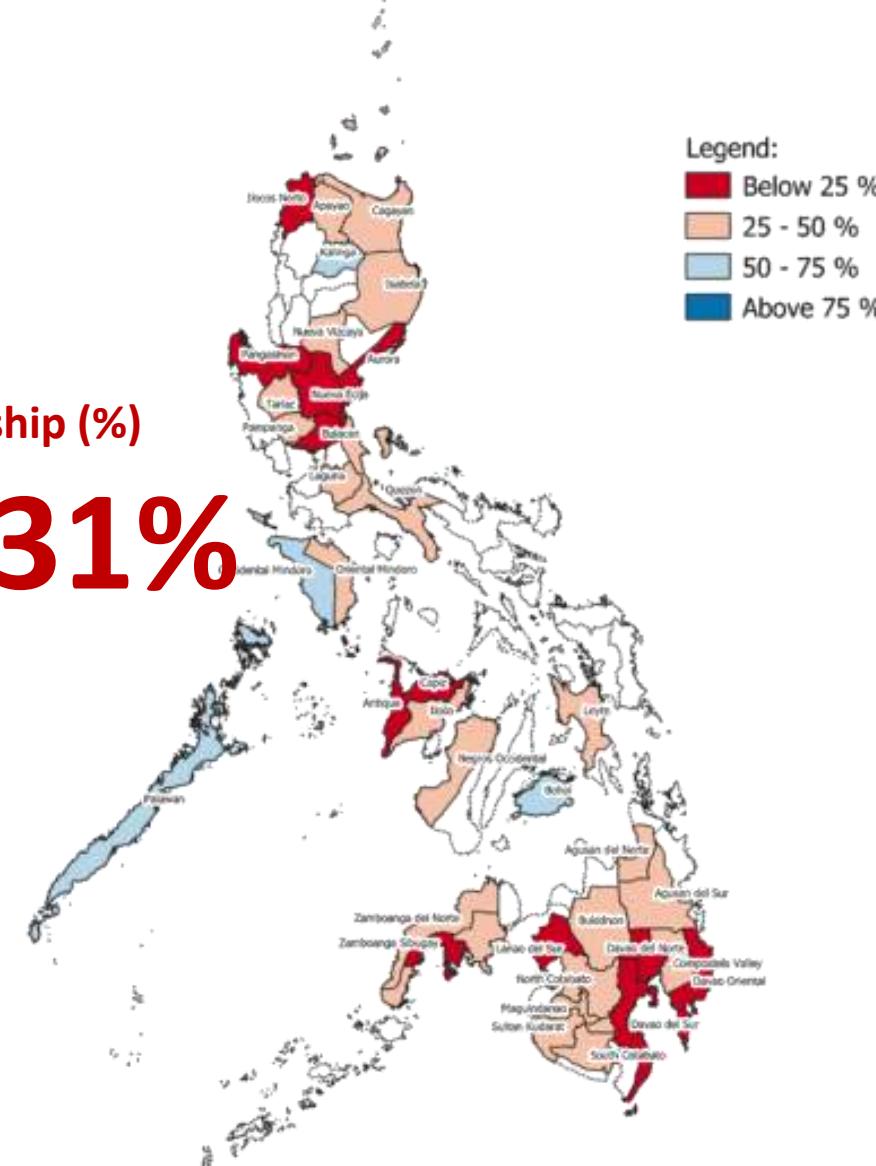
Actual use (%)

70%



Ownership (%)

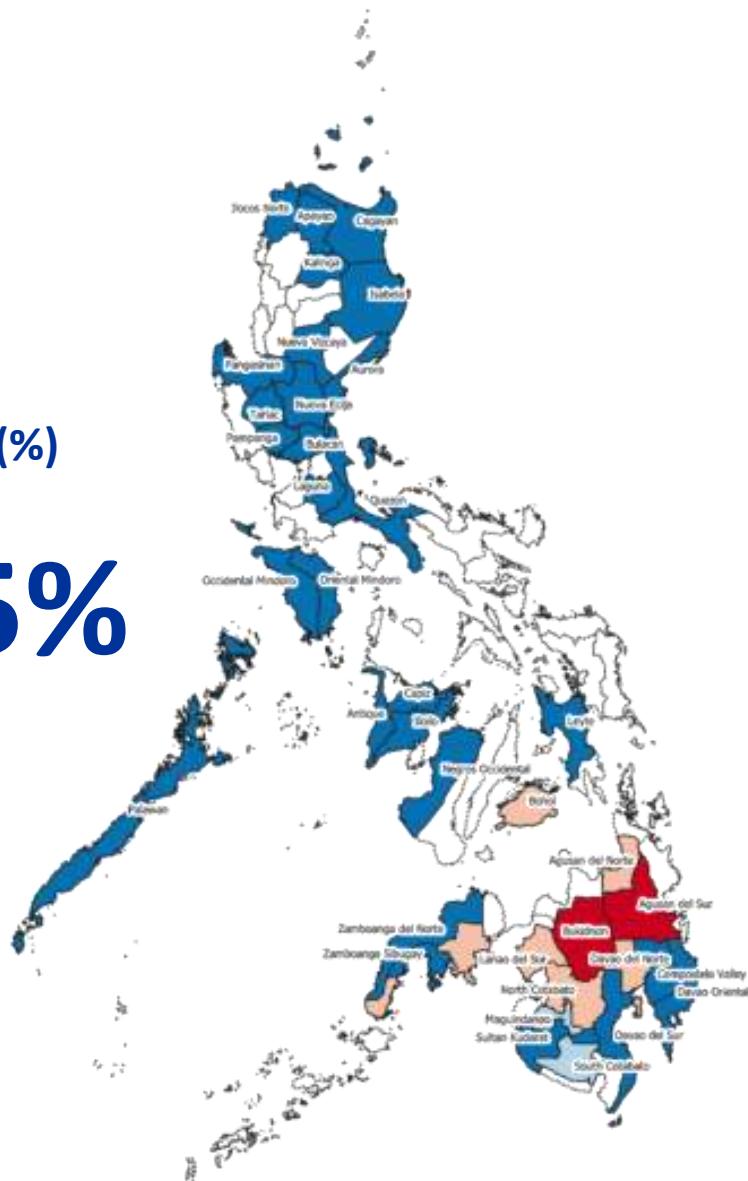
31%



Hand tractor: Actual use vs ownership, by province, 2016

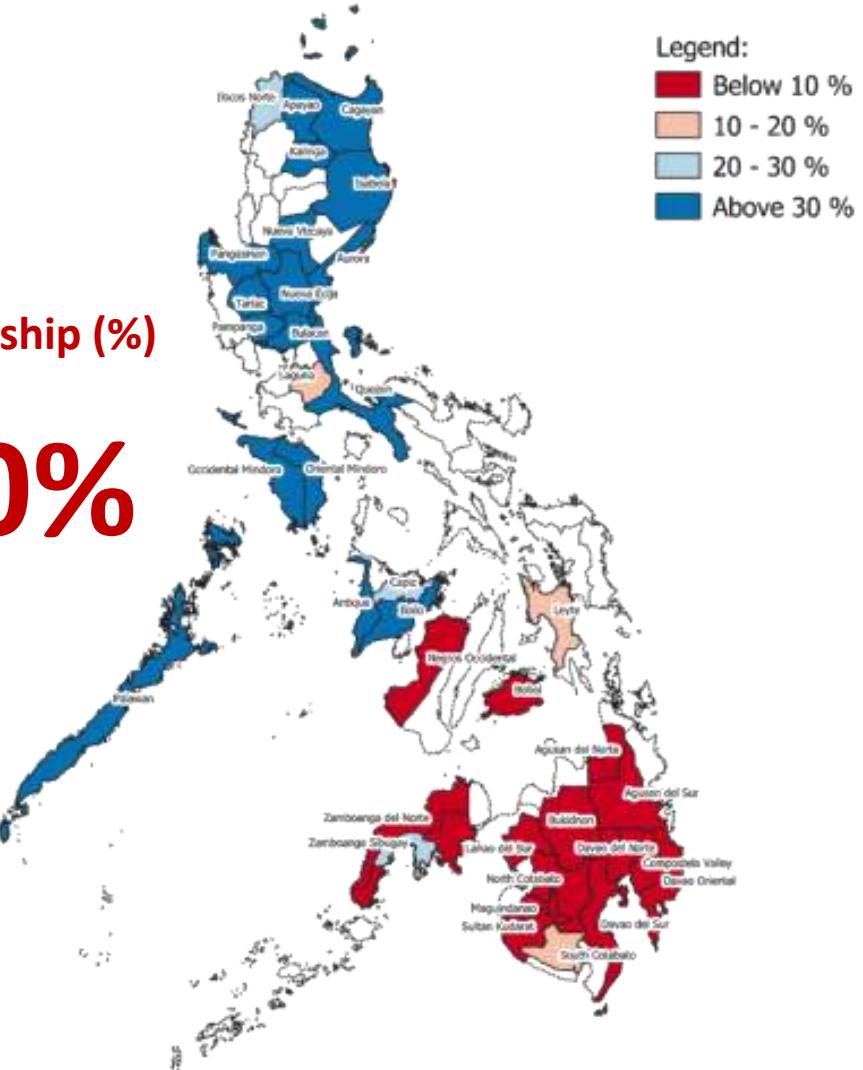
Actual use (%)

65%

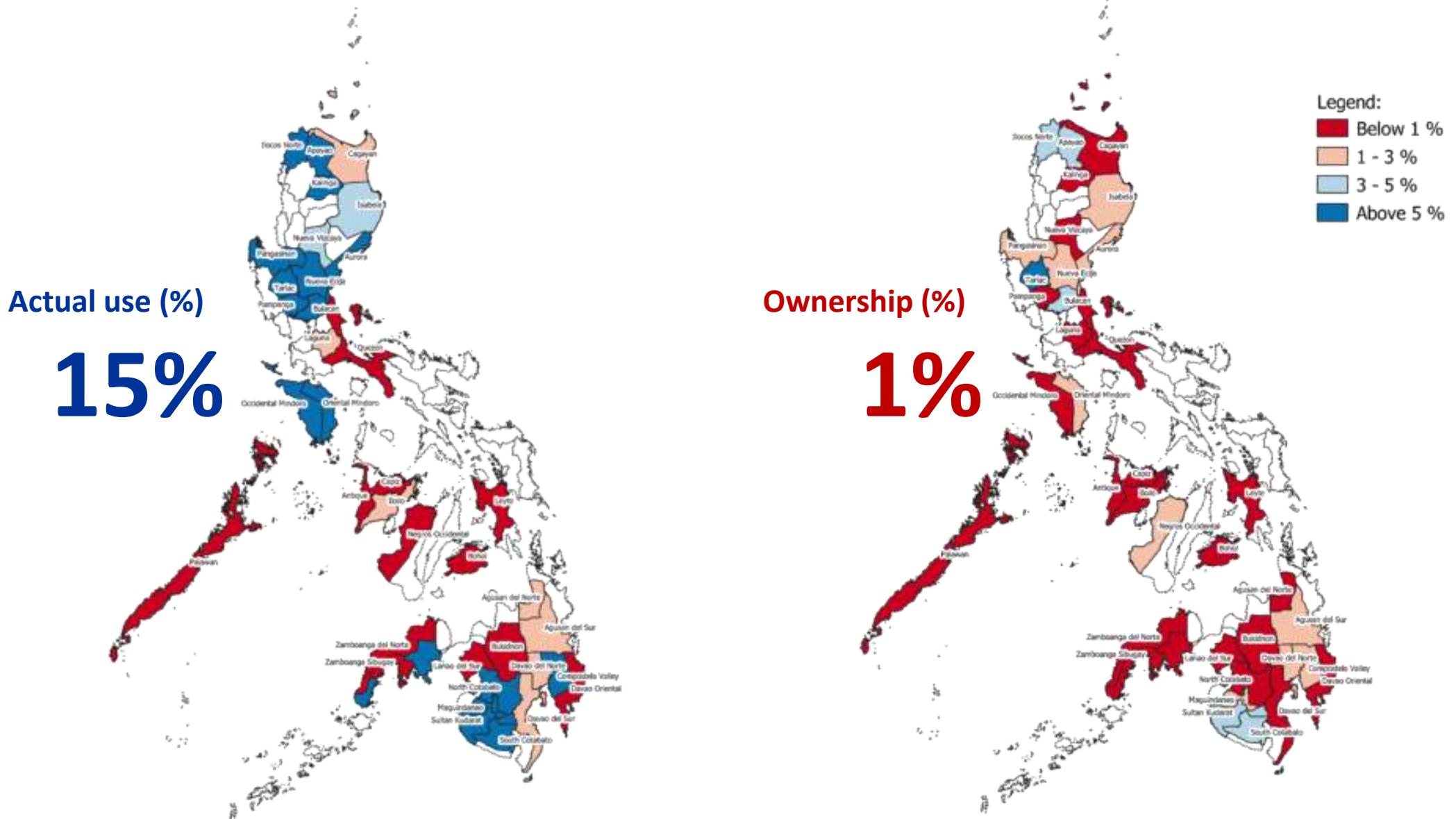


Ownership (%)

30%



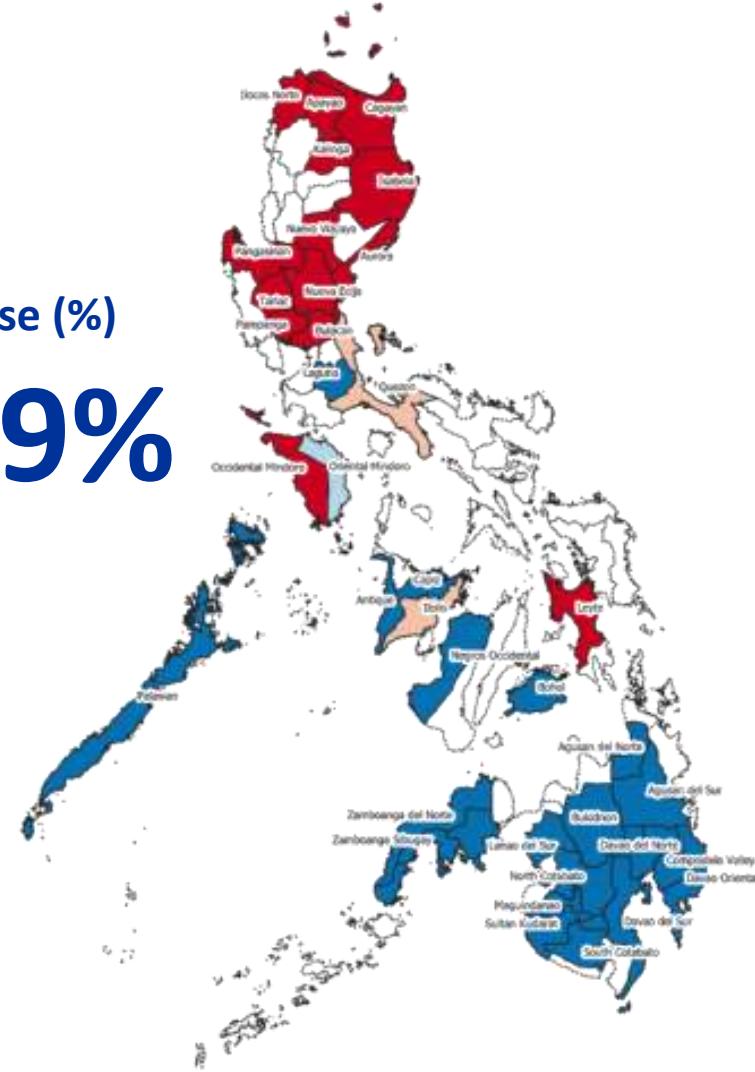
Four wheel tractor: Actual use vs ownership, by province, 2016



Floating tiller: Actual use vs ownership, by province, 2016

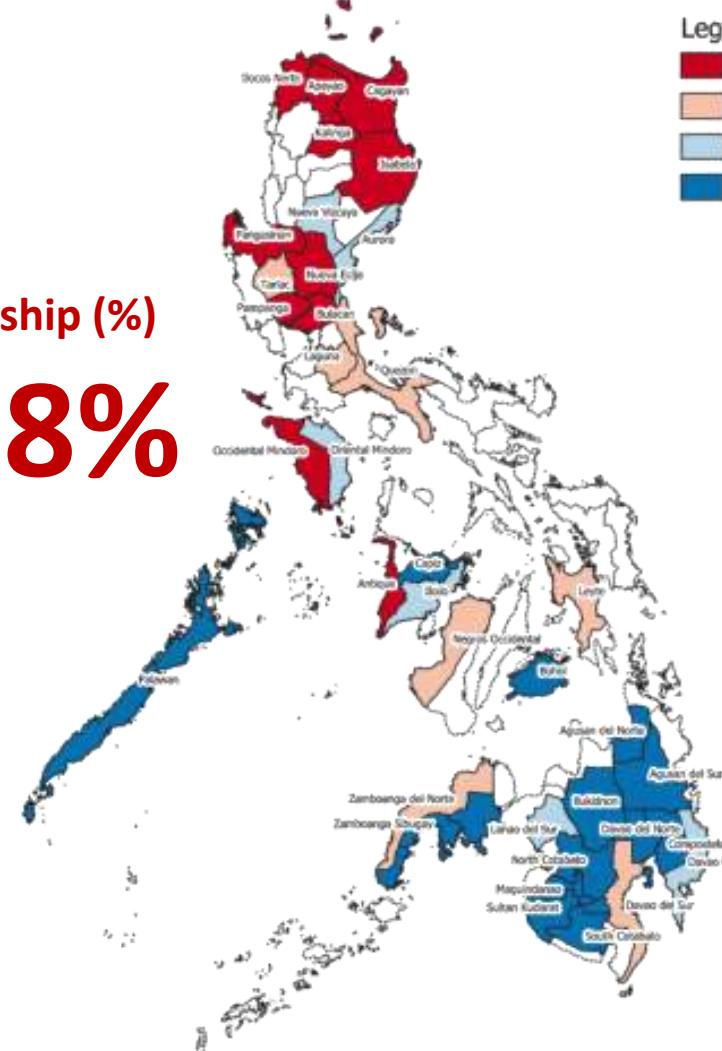
Actual use (%)

29%



Ownership (%)

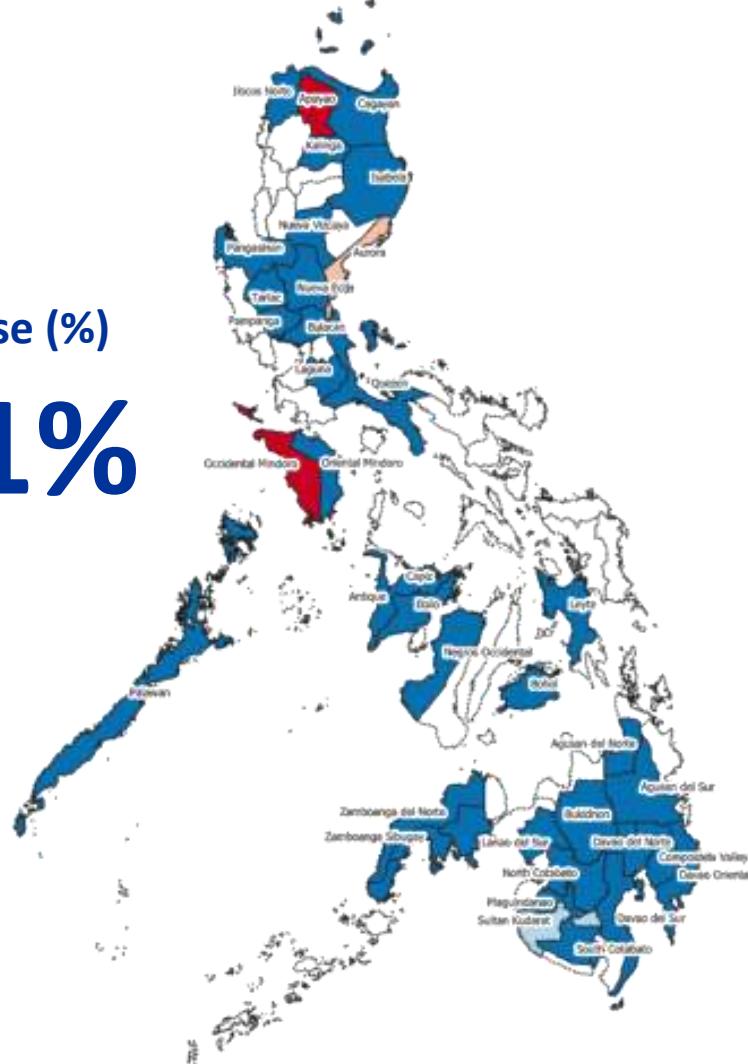
8%



Thresher: Actual use vs ownership, by province, 2016

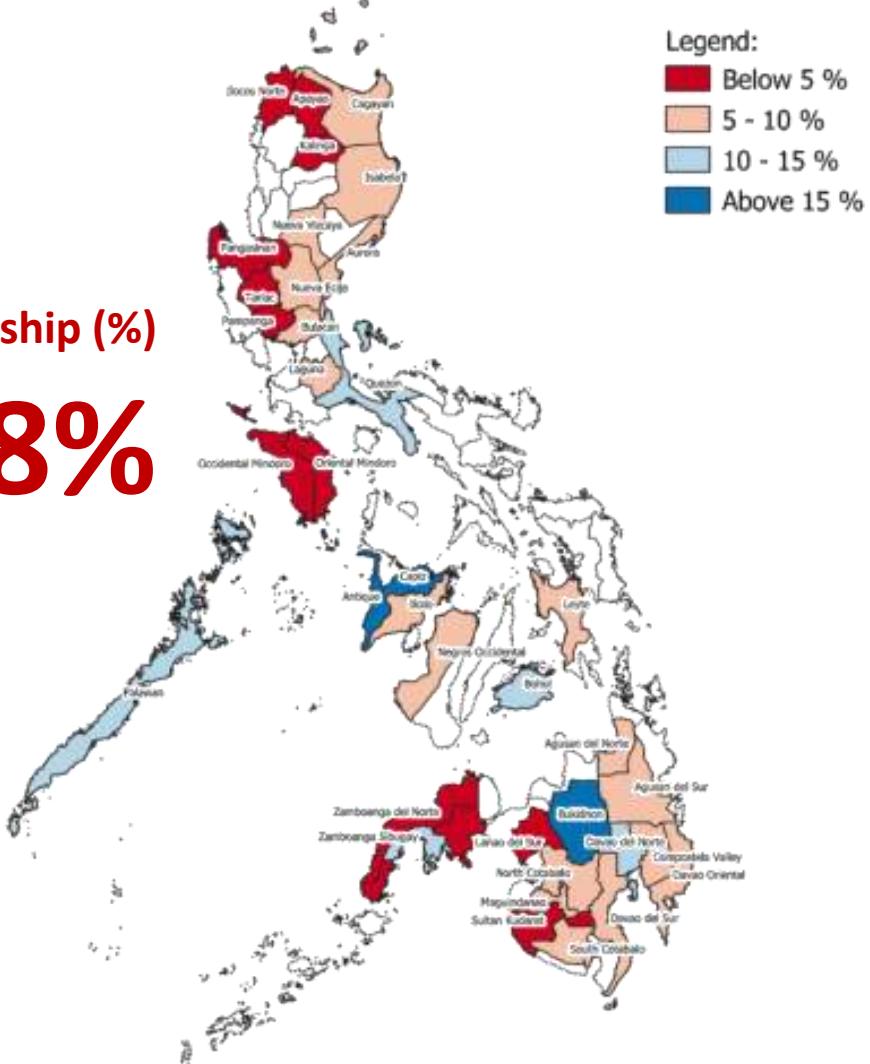
Actual use (%)

51%



Ownership (%)

8%



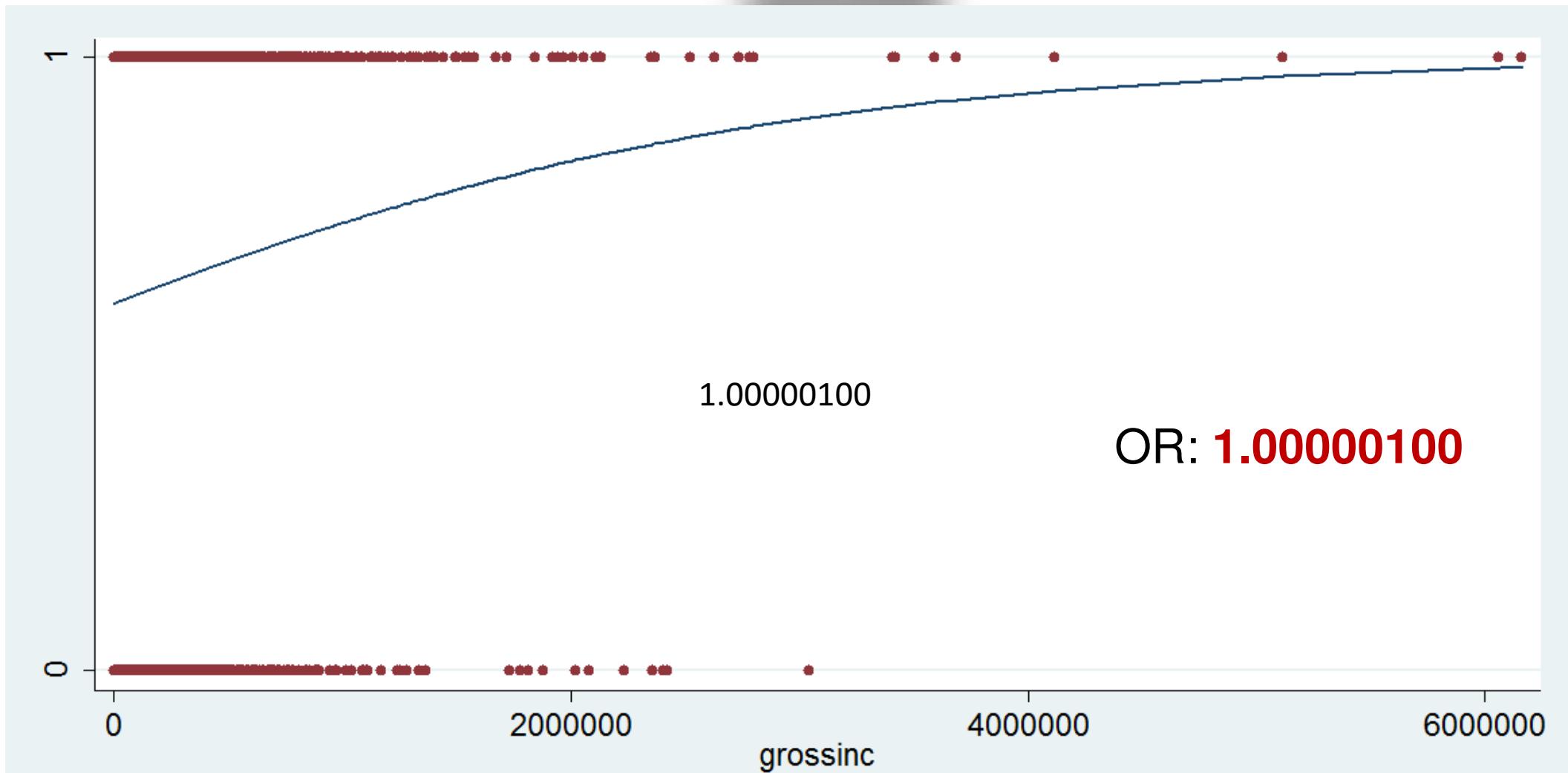
Legend:

- Below 5 %
- 5 - 10 %
- 10 - 15 %
- Above 15 %

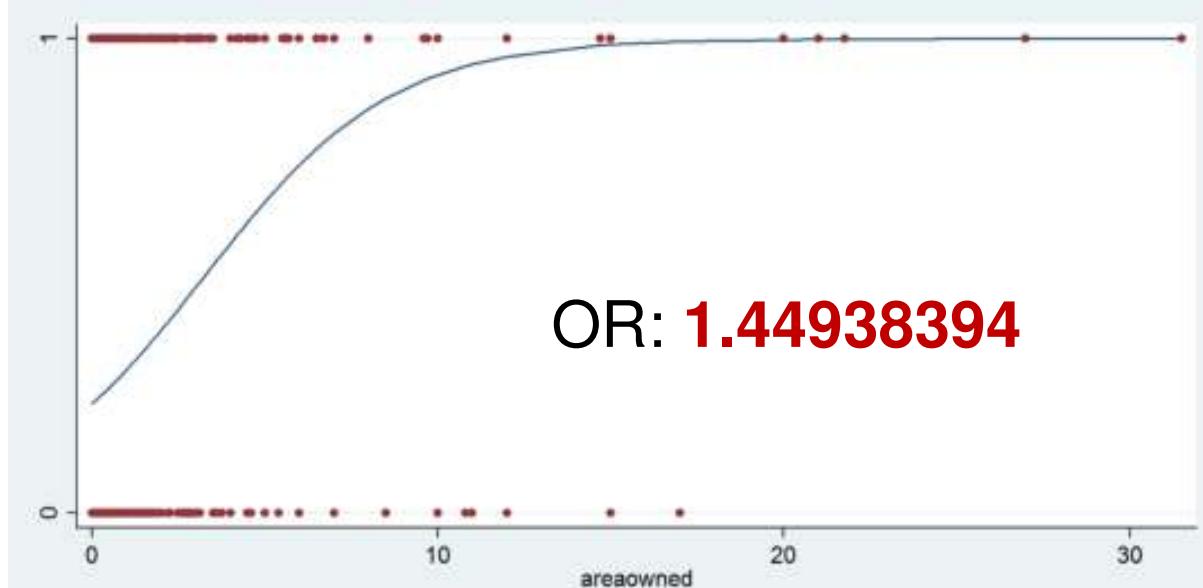
Factors yielding to ownership

2016

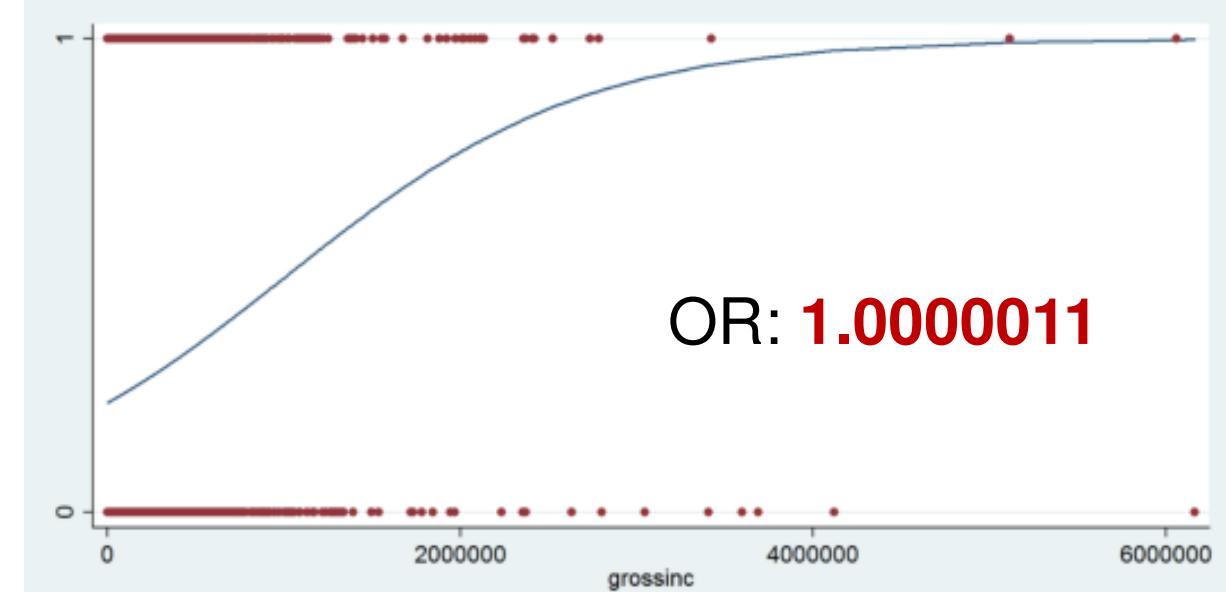
Rice farm ownership and Annual household gross income



Hand tractor ownership

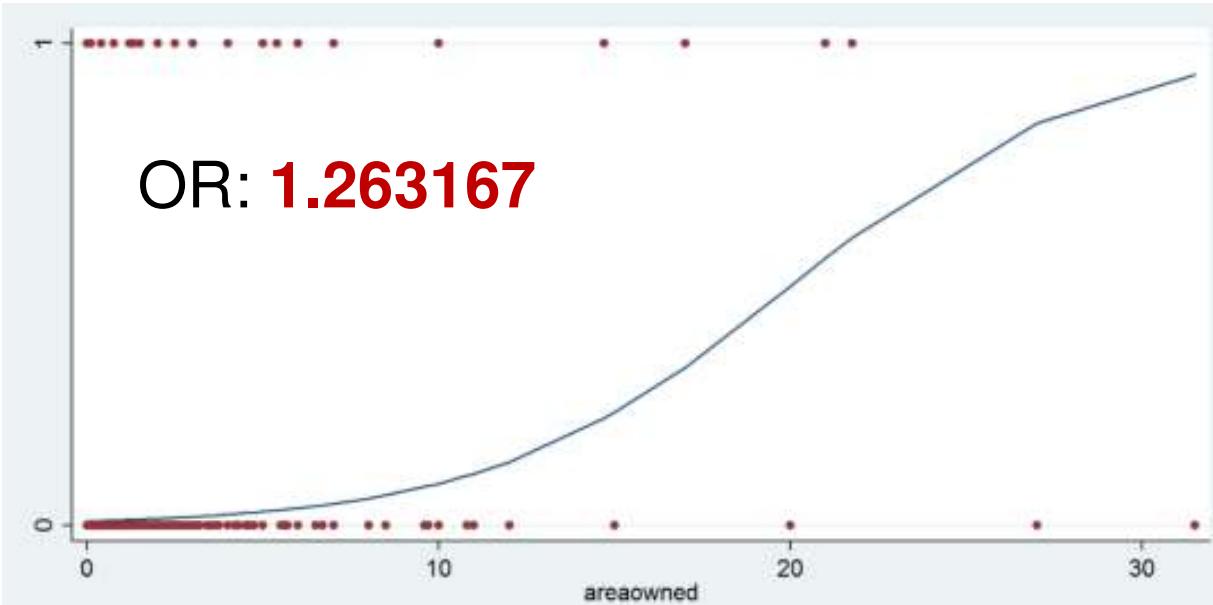


Area Owned (ha)

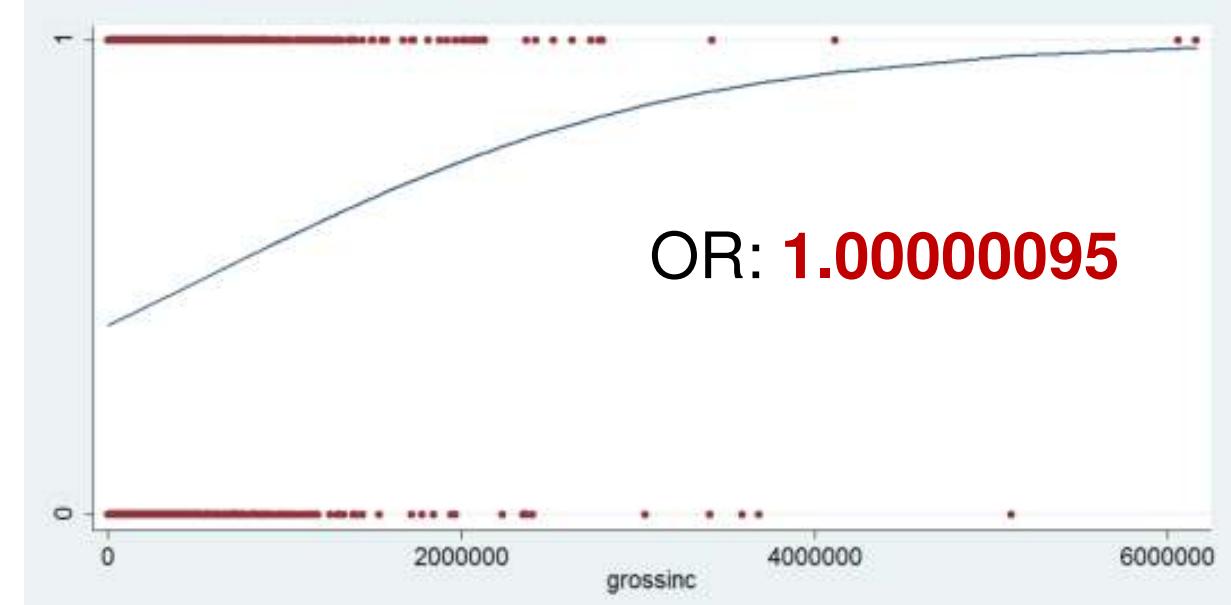


Gross income (PhP)

Four wheel tractor ownership

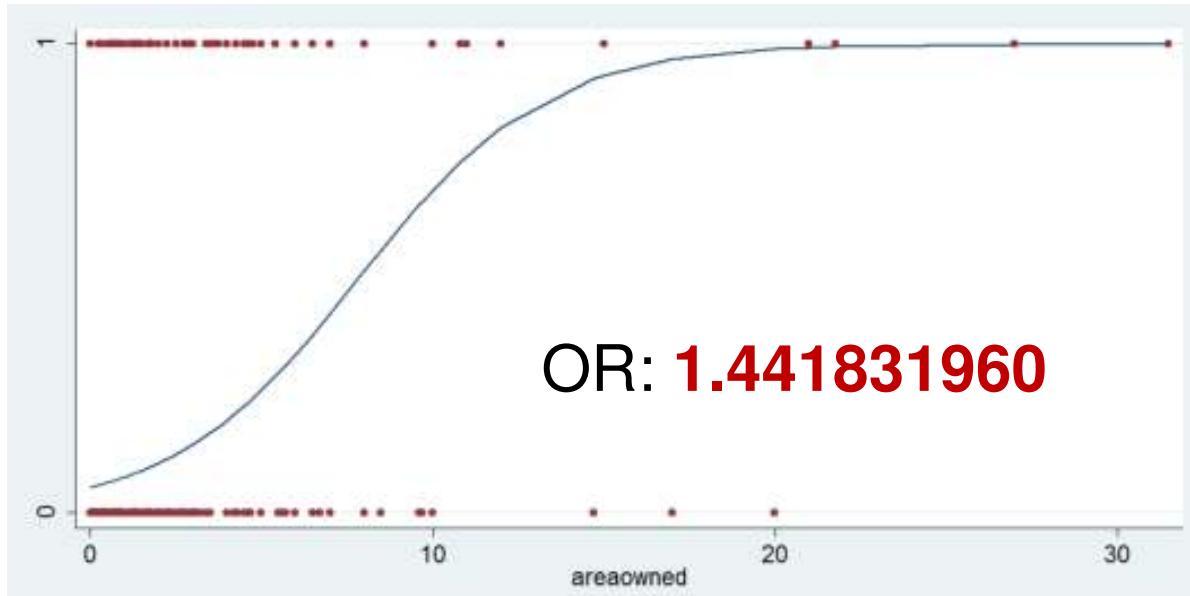


Area Owned (ha)

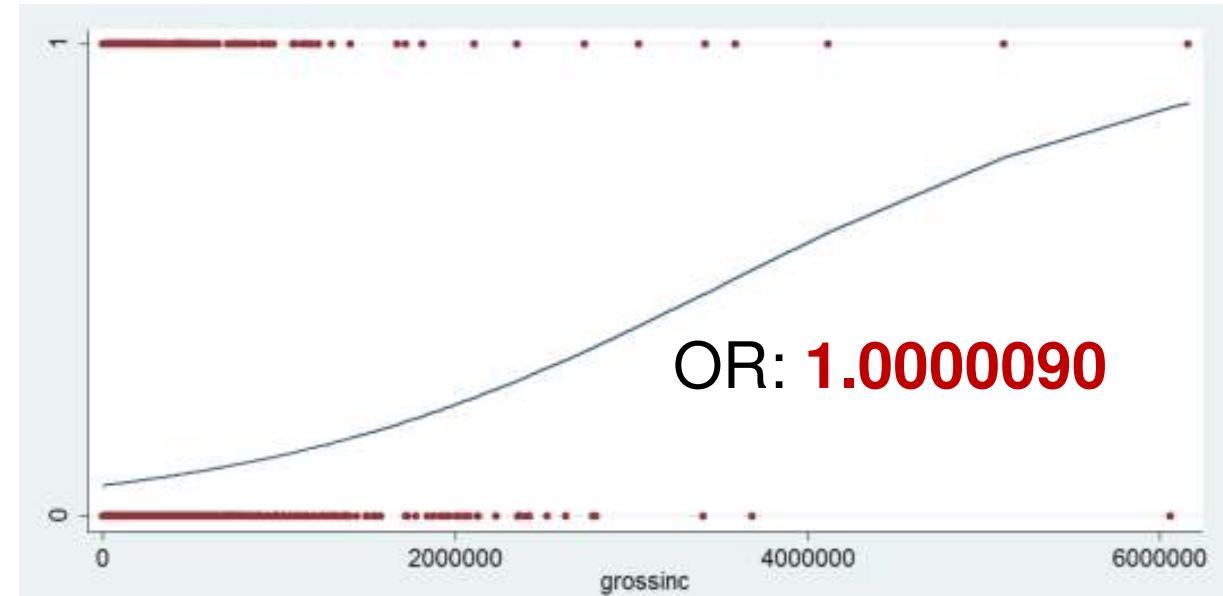


Gross income (PhP)

Floating tiller ownership

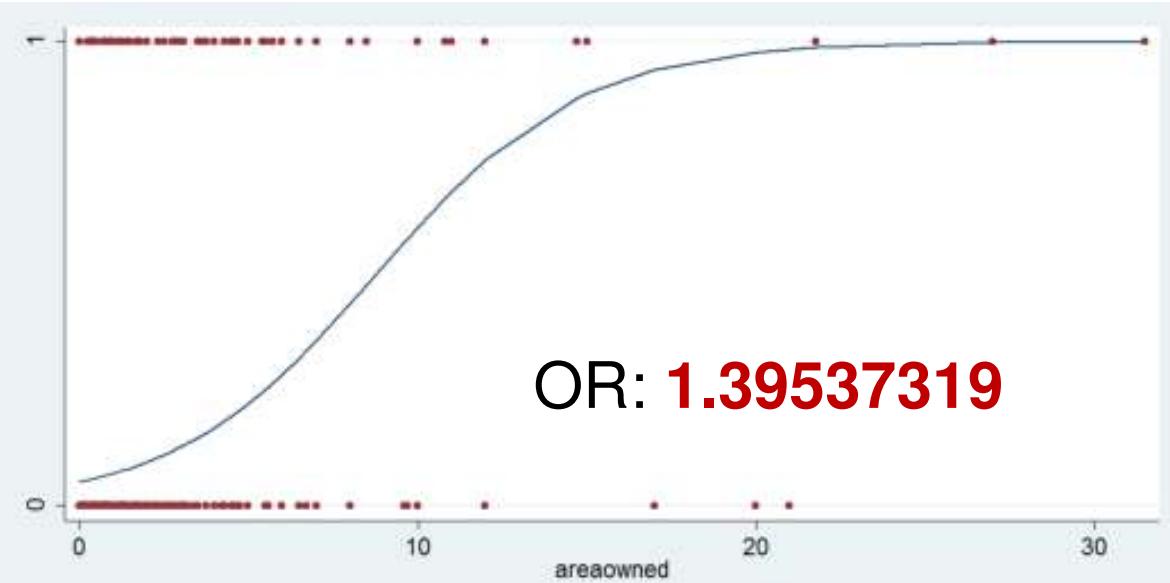


Area Owned (ha)

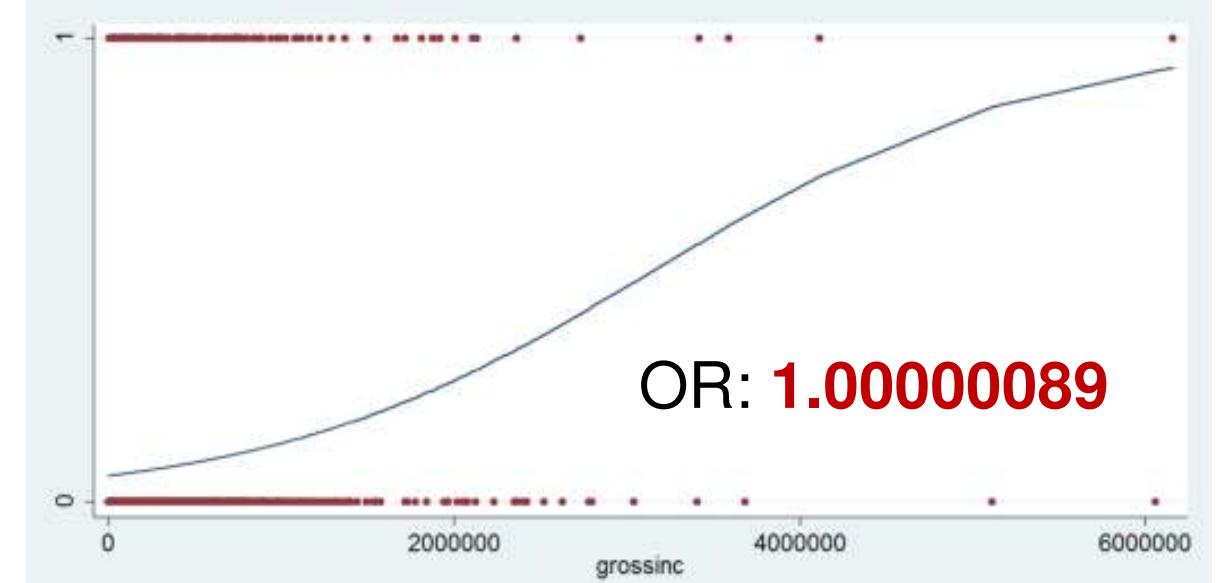


Gross income (PhP)

Thresher ownership

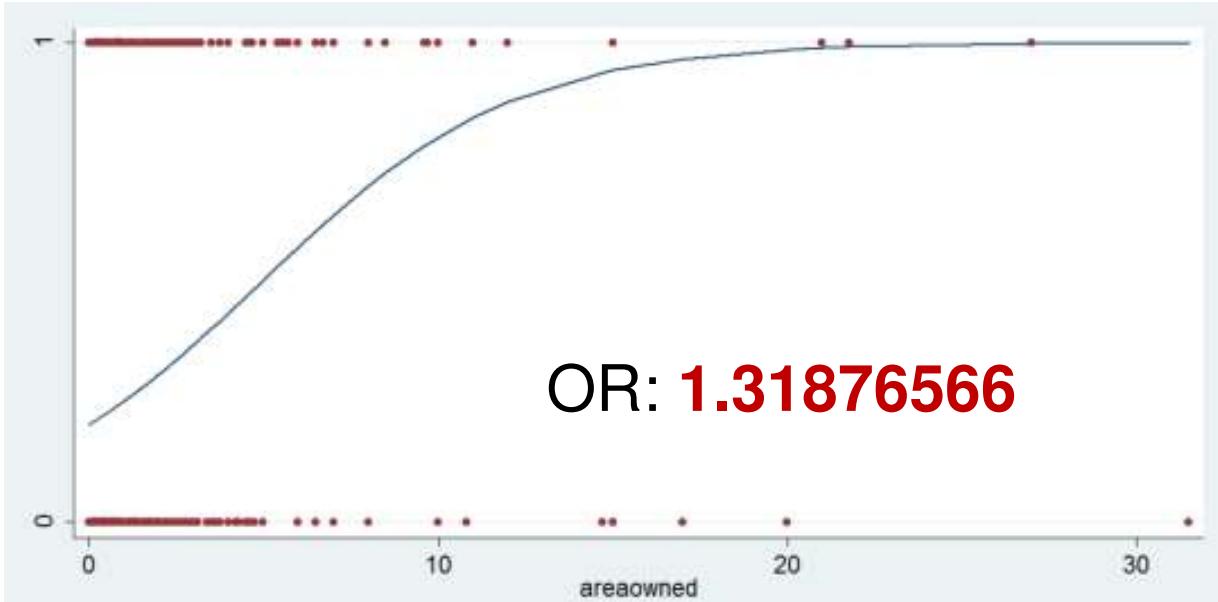


Area Owned (ha)

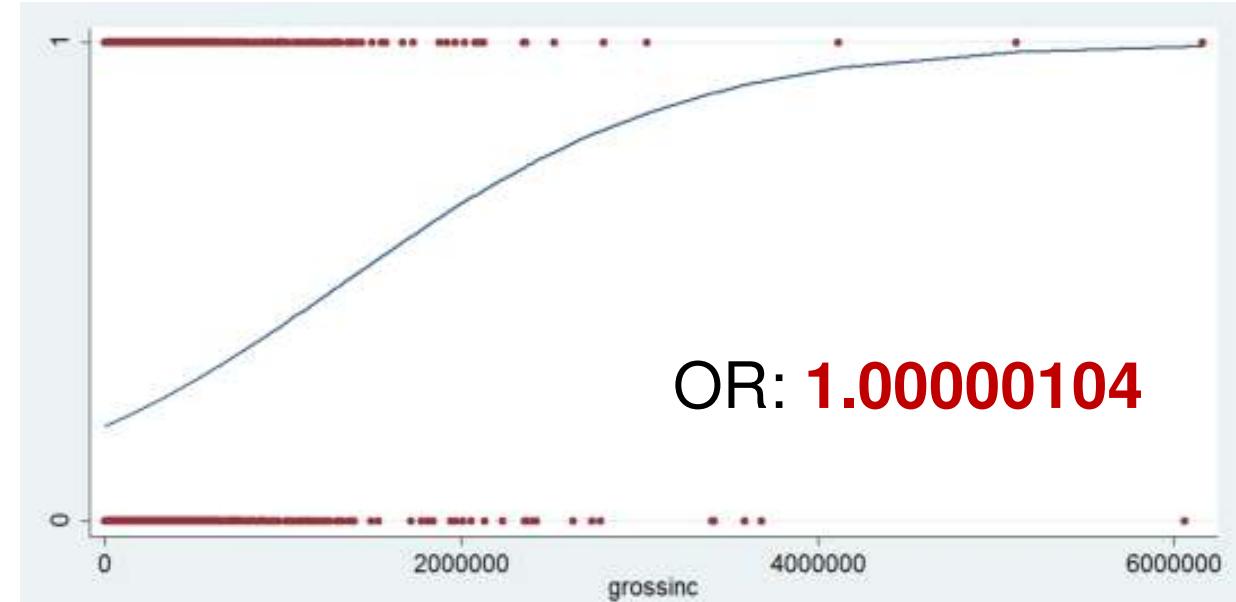


Gross income (PhP)

Irrigation facility ownership

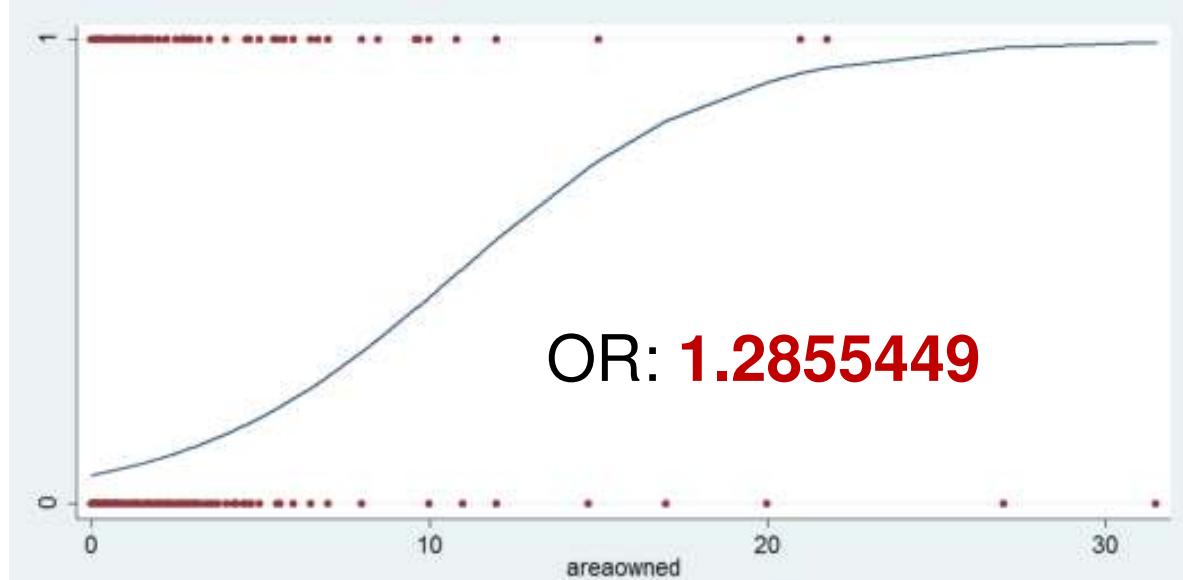


Area Owned (ha)

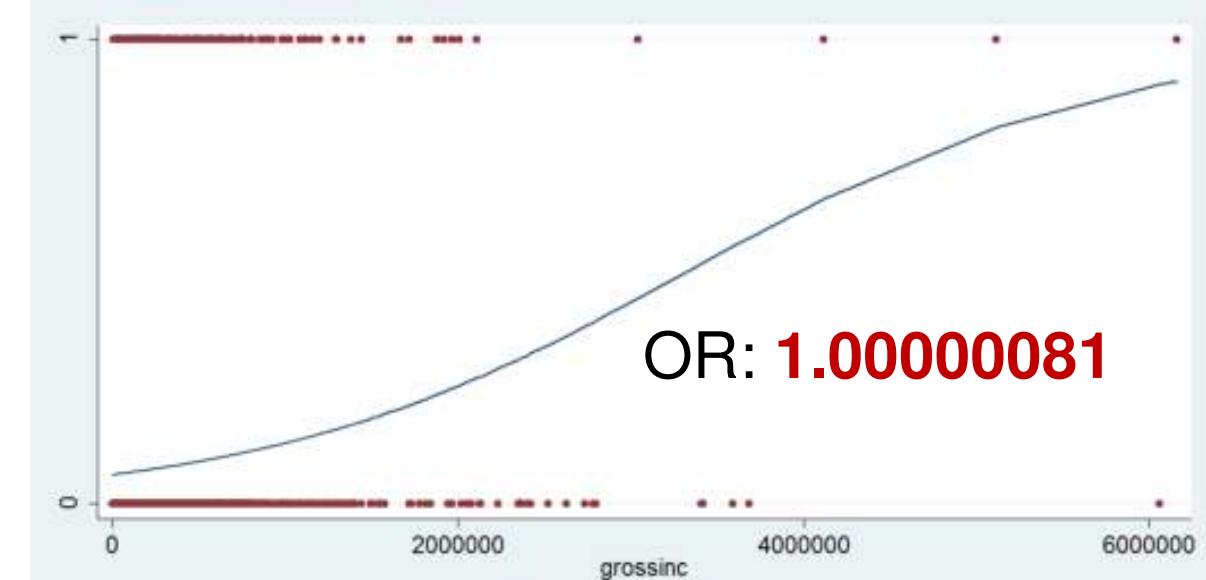


Gross income (PhP)

Post harvest facility ownership



Area Owned (ha)



Gross income (PhP)

Organization membership

YES

NO

Rice farm ownership (1.19)

Draft animal ownership (1.28)

Floating tiller ownership (1.38)

Opportunities leading
from high ownership

2016

More efficient labor

Ownership	Reduction for owning	
	Total person days per ha in land preparation	Labor cost (P/ha) in land preparation
Draft animals	1.08	923.19
Hand tractor	2.57	1, 565.32
Floating tiller	0.17	918.61

Lower tendency to avail credit

Ownership	Odds ratio (using own capital)
Draft animal ownership	1.22
Post harvest facility ownership	1.47

Higher yield

Ownership	Effect in yield (kg/ha)
Farm tool ownership	Increase
Irrigation facility ownership	Increase
Hand tractor ownership	Increase

Summary/Conclusion

Summary/Conclusion

- Ownership of rice farm land, irrigation facility and post harvest facility is increasing significantly from 1996 – 2016.
- Ownership of draft animal and farm tools and implements is decreasing significantly from 1996 – 2016.
- Hand tractor, Four wheel tractor and floating tiller ownership is increasing significantly while there is no substantial changes in thresher ownership from 1996 – 2016.
- About 61.44% of area planted from July – December 2016 are owned.
- The average percentage of actual use of draft animals and farm machineries are significantly higher than the respective percentage of ownership. This means the use of these assets are still being practiced regardless of the ownership of the assets.

Summary/Conclusion

- Farmers with higher gross income (PhP) are more likely to own the rice farm land they manage, draft animals, farm machines, irrigation facilities and post harvest facilities.
- Farmers with larger area owned (ha) are more likely to own farm machines, irrigation facilities and post harvest facilities.
- Farmers who owns the rice farm land they manage are more likely to not belong to any rice-related organizations. While farmers who own draft animal or floating tiller are more likely to be member of rice-related organizations.

Summary/Conclusion

- Ownership of draft animal, hand tractor and floating tiller can lead to more efficient labor on rice farming (lower person days and cost).
- Ownership of drat animals and post harvest facilities can reduce chances of farmer availing credit for rice farming.
- Ownership of farm tools, hand tractor and irrigation facility can lead to significantly higher yield.

Recommendation

Recommendation

- Creation of opportunities/programs to increase ownership/access to draft animals, farm machines, irrigation and post harvest facilities of **farmers with low gross income and low area owned.**
- Prioritization of intervention on **provinces with little to no improvement on ownership over the two decades.**
- Further analysis on the **effects of ownership** in increasing the yield and reducing the rice production cost

Thank You

Presenter:
Nefriend M. Francisco



PhilRice Text Center
0917 - 111 - 7423

rice.matters

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www.philrice.gov.ph
www.pinoyrice.com
dbmp.philrice.gov.ph/palaystat

prri.mail@philrice.gov.ph