

Interorganizational Collaboration Structure for Regional Development Program -Case of Tsuruoka City, Japan-

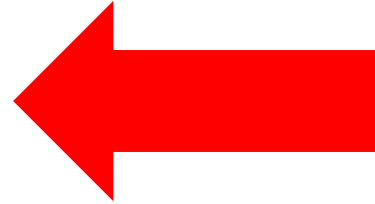
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Introduction (1)

Effective Utilization

Sustainable
Rural Development



Regional Resource
Natural & Social

Traditional
Farming
System

Traditional
Food
Culture

Introduction (2) 3 Case Studies in Japan:

International Programs Related to Rural Development using Regional Resource

Tsuruoka city:

Creative Cities Network
by UNESCO, Gastronomy (Food Culture)

Aso & Noto:

GIAHS by FAO



Food and Agriculture
Organization of the
United Nations



Creative Cities Network designated sites for gastronomy (food culture)



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All

Crafts & Folk Art

Design

Film

Gastronomy

Literature

Media Arts

Music

GIAHS in Asia and the Pacific

The concept of **Globally Important Agricultural Heritage Systems (GIAHS)** is distinct from, and more complex than, a conventional heritage site or protected area/landscape.

A GIAHS is a living, evolving system of human communities in an intricate relationship with their territory, cultural or agricultural landscape or biophysical and wider social environment.
(source: GIAHS HP)

36 GIAHS sites in 7 countries in Asia and the Pacific.

- Bangladesh 1
 - China 15
 - India 3
 - Japan 11
 - Philippines 1
 - Rep of Korea 4
 - Sri Lanka 1
- The figures are the number of designated sites.

Introduction (3)

Interorganizational Collaboration

Focus on
Groups/organization
s, Not Persons
Directly. Why?

Various rural organizations:
Local governments, Farmers,
cooperatives, Food
processing industry,
Restaurants,
Tourism industry,
Schools,
Environment groups, NPOs,
etc.



1. Number
2. Observability
3. Grouping
4. Government Policy

Introduction (4)

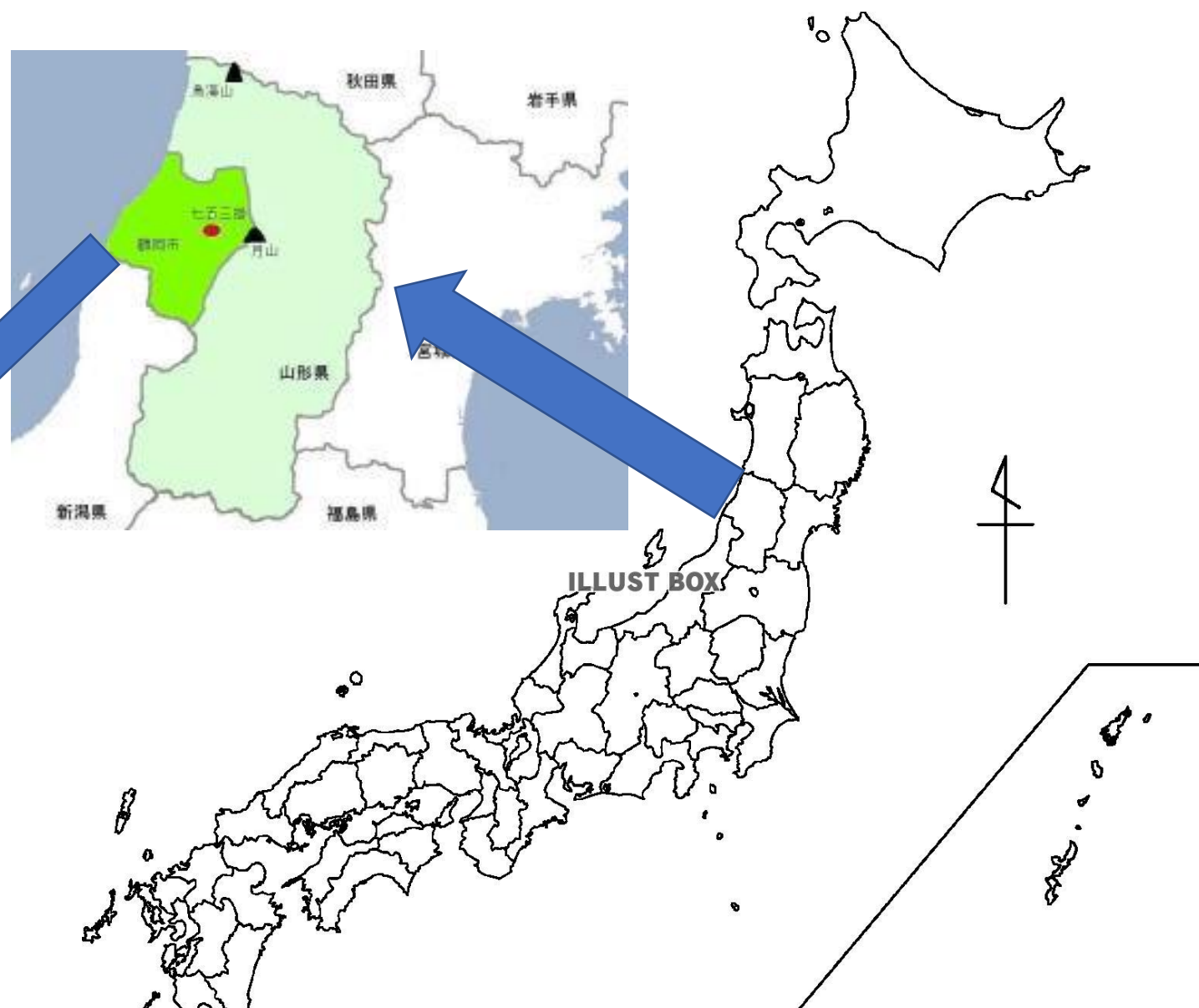
Collaboration of
Organizations
for Effective Use of
Regional Resource

UCCN of Gastronomy
(food culture)

Tsuruoka city
Yamagata prefecture
A site used by TV movie,
Oshin

Interorganizational
Structure

Tsuruoka city



Tsuruoka consists of 6 former municipalities.

UNESCO Creative City Network (2014 ~)

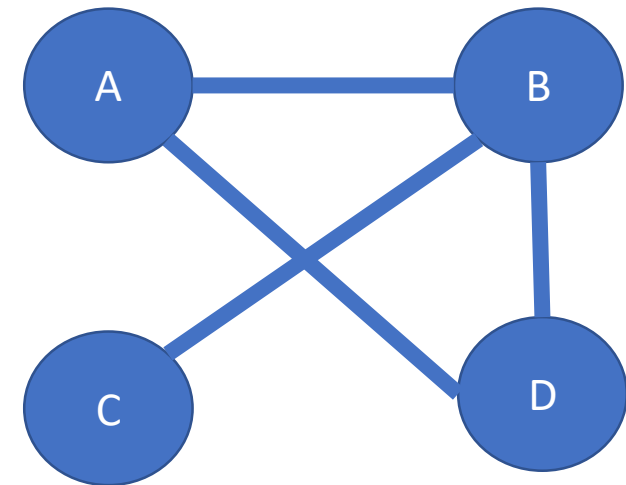


Source: UNESCO HP

→2014: Tsuruoka city designated to UCCN.
Various organizations participating in the program.

Interorganizational Network: Social Network Analysis (SNA)

	A	B	C	D
A		1	0	1
B			1	1
C				0
D				



- Matrix (left) and graph (right) represent the relationships.
- In this study, dots (actors) are **organizations** and lines are **relationships** including ordinary commercial transaction and information sharing through the activities of UCCN.

Data collection

1. 46 organizations from different sectors and regions (former municipalities).
2. Considering exhaustivity and diversity of sectors and regions.
3. Mail survey: January to February 2018.

Sector		Number of organizations
1	Agriculture	6
2	Administration	7
3	Tradition/food culture	7
4	Tourism/business	23
5	Research/education	3

region		Number of organizations
1	Wide area	14
2	Asahi	3
3	Atsumi	7
4	Kushibiki	3
5	F Tsuruoka	12
6	Haguro	4
7	Fujishima	3

SNA for Tsuruoka's UCCN activities

Analysis of Present structure

- 1: Features relation by sector/region
- 2: Evaluation of the present situation

Analysis of Structural change

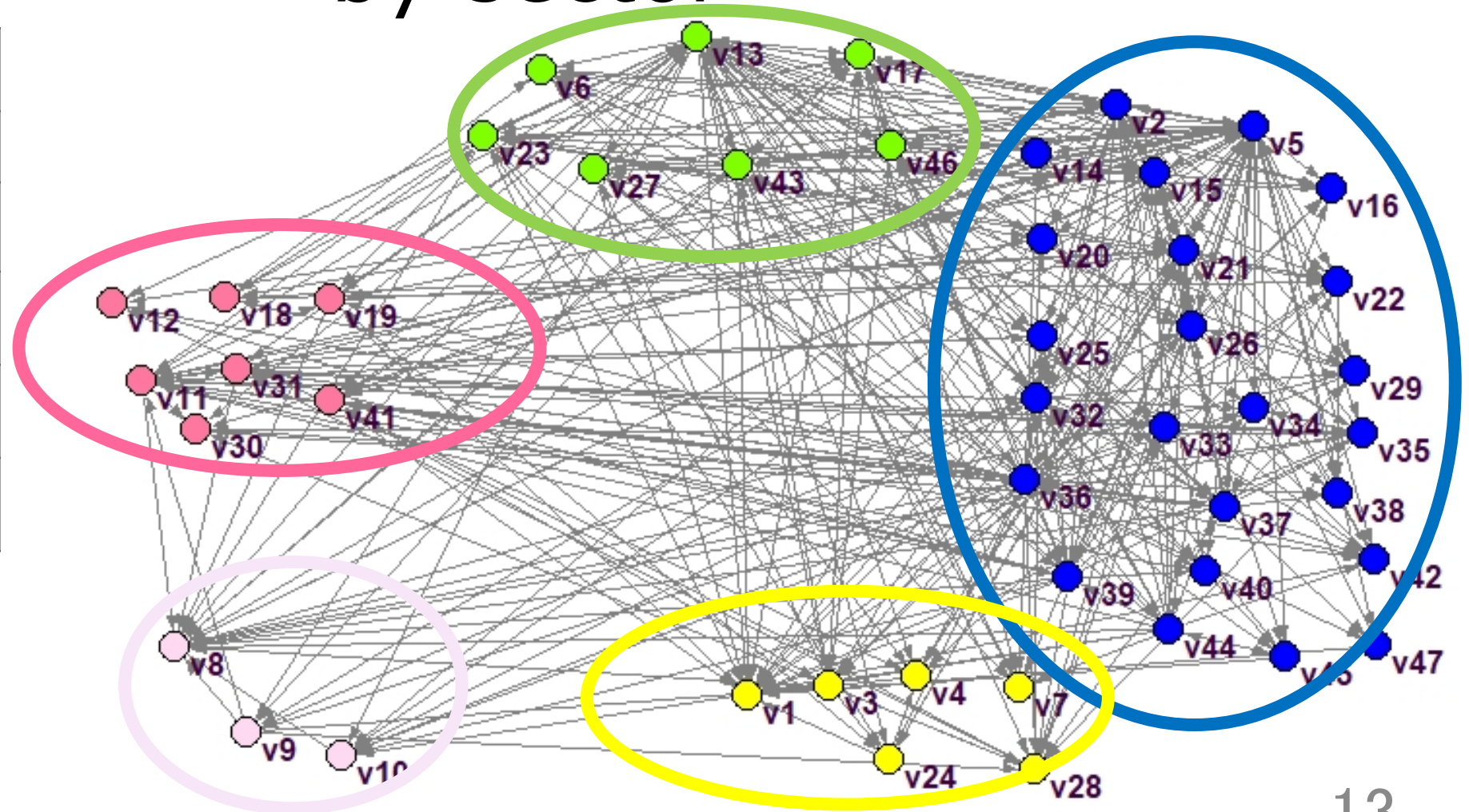
- 3: Intention for the future collaboration
- 4: Change in seasonal festival periods

Traditional vegetable and regional specialties



1-1 Interorganizational collaborative structure by sector

colors	
1	Agriculture
2	Administration
3	Tradition/food culture
4	Tourism/business
5	Research/education



1-2 Network score (degree centrality) by sector

		Average Degree Centrality
1	Agriculture	15.17
2	Administration	26.29
3	Tradition/food culture	13.29
4	Tourism/business	18.67
5	Research/education	13.33
Total		18.21

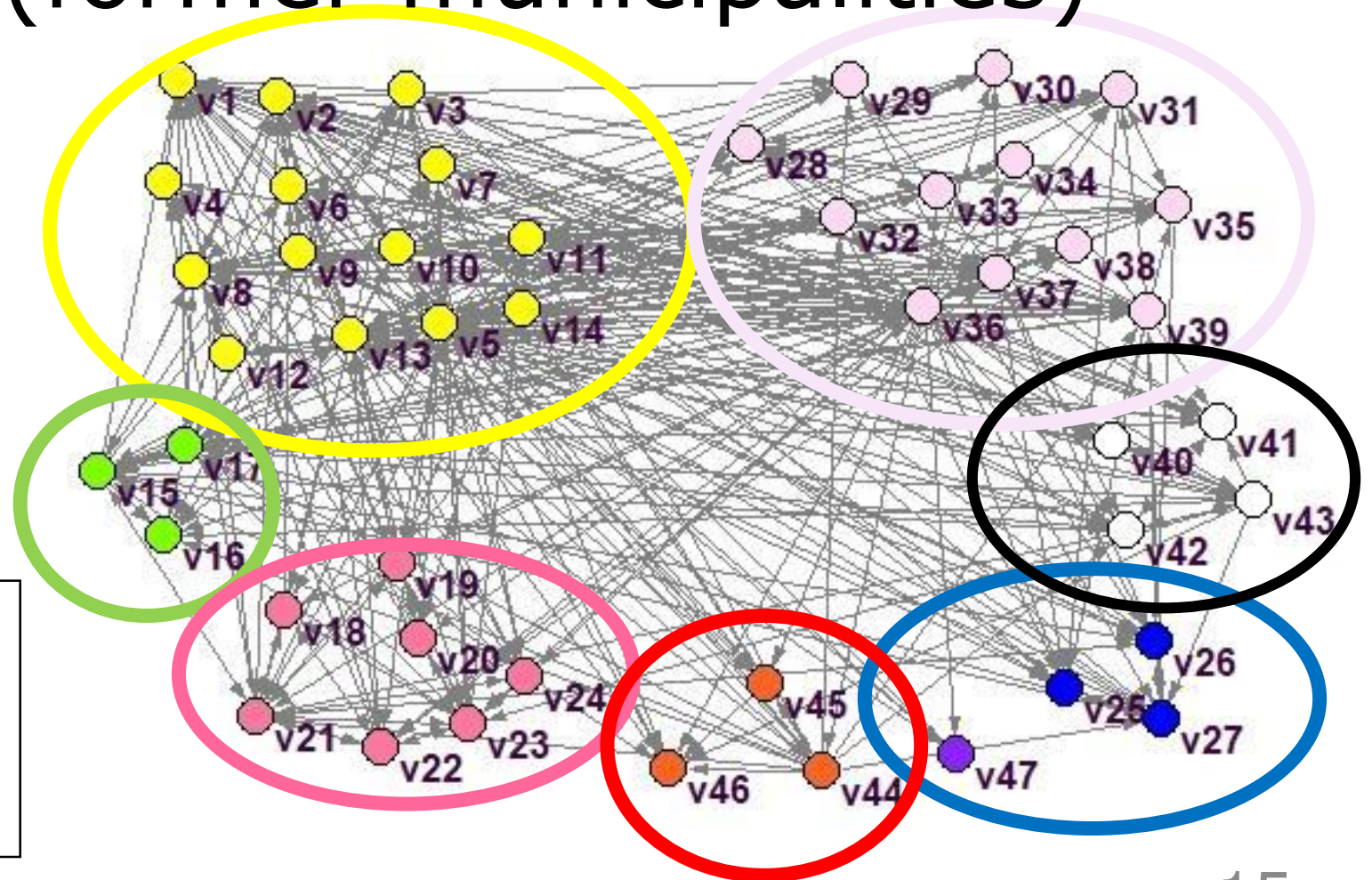
“Administration” is at the center position.

“Administration” sector includes Tsuruoka city office and its regional branches.

1-3 Interorganizational collaborative structure by region (former municipalities)

Colors	
1	Wide area
2	Asahi
3	Atsumi
4	Kushibiki
5	F Tsuruoka
6	Haguro
7	Fujishima

Note: "Wide area" includes organizations active across more than one region. They are mostly located in former Tsuruoka city (F Tsuruoka).



1-4 Network score (degree centrality) by region

		Average Degree Centrality
1	Wide area	22.64
2	Asahi	21.67
3	Atsumi	16.29
4	Kushibiki	13.67
5	F Tsuruoka	17.42
6	Haguro	16
7	Fujishima	13.67

Wide area and Former Tsuruoka are at the center position.

Wide area includes organizations whose activities cover most of the city.

2-1 Evaluation of the present collaboration network by sector

sector		Evaluation
		Average
1	Agriculture	3.00
2	Administration	3.50
3	Tradition/food culture	3.83
4	Tourism/business	3.47
5	Research/education	3.00
Total		3.44

Averages of “Administration” and “Tradition/food culture” are relatively high.

⇔Averages of “Agriculture” and “Research/education” are low.

*Evaluation: 5 stage evaluation. Answer to the question, “Do you feel the collaboration with other organizations have been revitalized by the activities of UCCN?”

2-2 Evaluation of the present collaboration network by region

Region		Evaluation
		Average
1	Wide area	3.40
2	Asahi	3.00
3	Atsumi	3.33
4	Kushibiki	3.50
5	F Tsuruoka	3.78
6	Haguro	3.33
7	Fujishima	3.00

High average: F Tsuruoka, Wide area, Kushibiki



Evaluation of the present collaboration network is higher in "Administration" and "Former Tsuruoka".

2–3 Correlation coefficients between Evaluation and NW scores.

NW Scores	Evaluation
Outdegree	0.32
Indegree	-0.05
Degree Centrality	0.25
Closeness centrality	0.29
Betweenness centrality	0.28
Constraint	-0.03
Eigenvalue centrality	0.21

The higher the degree centrality, the higher the self-evaluation.



The increase of degree centrality can lead to higher evaluation.

3-1 Degree Centrality with Future Intention by Sector

present

Degree

Administration (7)	26.14
Other sector (39)	17.00
difference of average	9.14



Degree Centrality of Other sectors
more increased.

future

Degree

Administration (7)	26.86
Other sector (39)	19.13
difference of average	7.73

3-2 Degree Centrality with Future Intention by Region

present	Degree
F Tsuruoka (26)	20.04
Other region (20)	16.25
difference of average	3.79



Degree Centrality of Other Regions
more increased.

future	Degree
F Tsuruoka (26)	21.12
Other region (20)	19.25
difference of average	1.87

* F Tsuruoka shows the total of the scores of F Tsuruoka and Wide area.

4 Comparison of Ordinary & Seasonal Festival Period

			Degree
By sector	Ordinary period	Administration(7)	8.71
		Other sectors (40)	7.62
		difference of average	1.09
	Seasonal event period	Administration(7)	3.14
		Other sectors (40)	2.21
		difference of average	0.93
By region	Ordinary period	F Tsuruoka (26)	8.58
		Other regions (20)	6.75
		difference of average	1.83
	Seasonal event period	F Tsuruoka (26)	2.27
		Other regions (20)	2.45
		difference of average	-0.18

In the seasonal festival periods, the difference of degree centrality between the center and the periphery decreased.



Summary and Discussion (1)

1. Center-periphery Structure

By Sector Central: Administration、 Tourism/business

Periphery: Research/education, Trad./food culture

By Region Center: Former Tsuruoka

Periphery: Other regions

2. Correlation between Evaluation and Position in Network

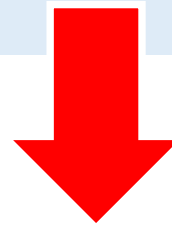
3. Decentralized Structure with New Linkages desired.

4. Periphery Sectors and Regions Involved More in Seasonal Festival Periods.

Summary and Discussion (2)

(2) Policy Recommendation:

1. **Bridging**: New linkages bridging different sectors and regions. Information flow will change.
2. **Revitalization**: Participation of organizations at a periphery position. Motivation will increase.



These policies may lead to Decentralize Structure desirable for innovation.