

“From ‘Black diamonds’ to ‘black paper:’ Nori seaweed cultivation in northeastern Japan”

The Political Ecology of Coastal Societies

Panel: The New Blue-Green Economy in Sea Algae Harvesting

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Nori 海苔

Japanese cuisine is well known for its use of seaweeds in the preparation of sushi, soups, and various other dishes.

Nori was previously, exclusively, a high value product, used to pay taxes, and more recently given as gifts in the formal gift giving season. Now more often used as an ingredient in processed foods (e.g., 7-11 rice balls; potato chips, etc.)

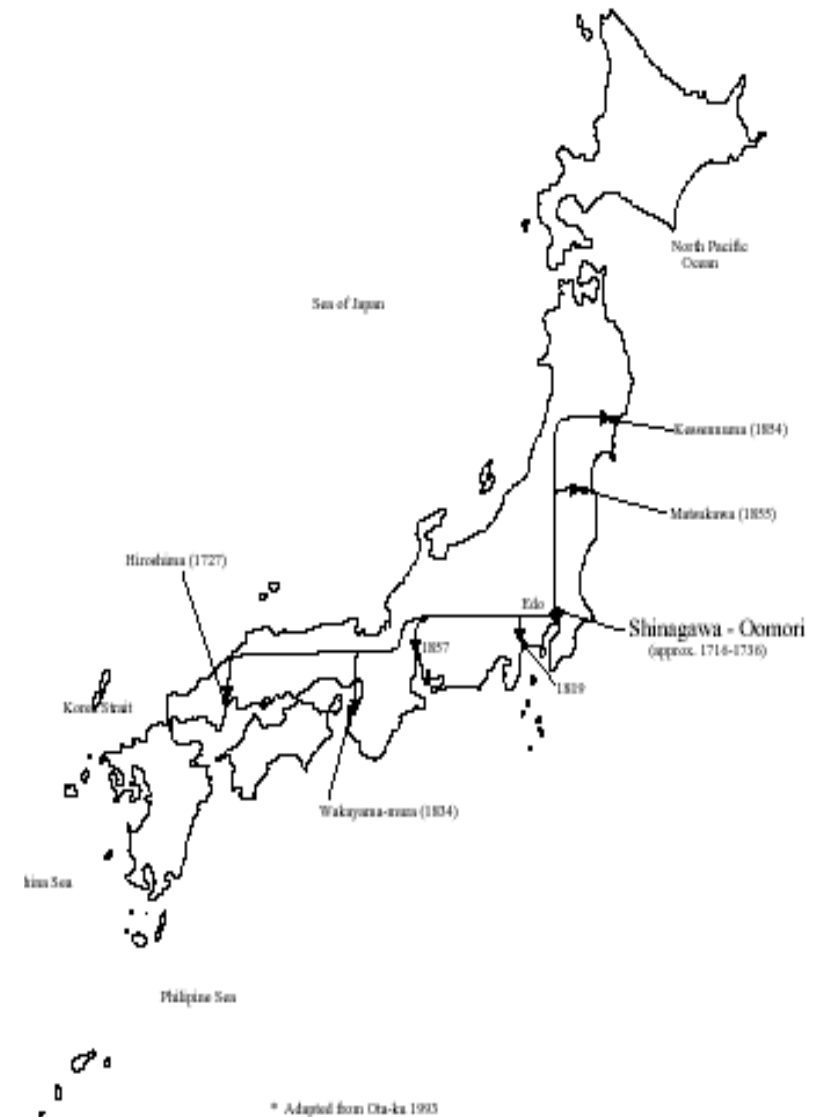
My research focused on the history and production of *nori*, including gendered divisions of labor, incomes, and the harvesting cycle; as well as into resource rights and the *noriya way of life*.

Nori is a good lens for analyzing Japanese culture as a whole, for the trends seen in production and consumption mirror much of what is seen in the greater society.



Brief timeline of Nori history in Miyagi/Shichigahama

- 1854 Nori cultivation begins in Miyagi Prefecture (Kessennuma City region)
- 1900s Miyagi cultivation experiments begin in Matsushima Bay area by government scientists
- 1930s Cultivation begins in Shichigahama (Toguhama and Yogasakihama communities)
- 1948 Fishing Cooperative Associations are restructured
- 1960s Floating Raft technology develops
- 1960s Pacific-side Cultivation begins
- 1972 *Nori* Cultivating populations reaches peak at 804 households
- 1981 177 households quit nori cultivation (50 in Yogasaki alone) – almost 29% in one year
- 82
- 1986 Another 80 households quit in the last massive retirement wave
- 2001 107 households remain (including two on “temporary” medical leave)



The Technology Treadmill

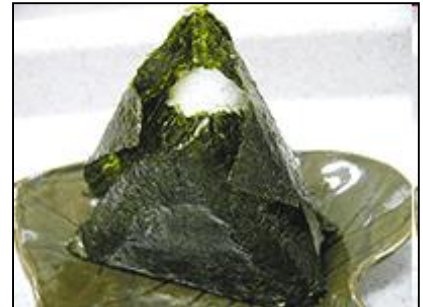
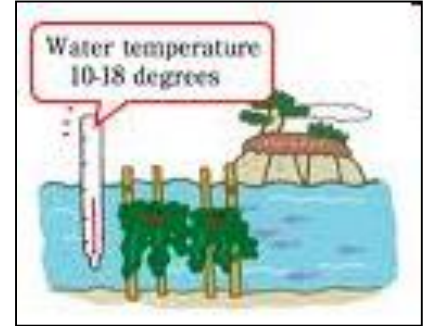
Technological Innovations with approximate beginning dates*

| | |
|-----------|---|
| 1951-1955 | Usage of various stoves to dry <i>nori</i> indoors began |
| 1955~ | Use of vacuums to harvest <i>nori</i> began |
| 1956~ | First semi-automated baking machines developed |
| 1964 | Began Large-scale Artificial Seeding |
| 1965 | Usage of revolving cutting machines (<i>shamisen</i>) began |
| 1970 | Freezing of nets began |
| 1972 | Usage of floating rafts began to be in widespread usage |
| 1972 | Usage of fully-automated machinery (national level) began |
| | Implemented national and regional productions goals |
| | Usage of Large washing tanks began |
| 1981 | Began using large, fully- automated machinery (Miyagi) |
| 1987 | Began computerized control of automated machinery |
| 1992 | Usage of Pulley and winch system began (Shichigahama) |
| 1997 | Usage of large washing tanks (Yogai hamlet) |



Production “Quick” Notes

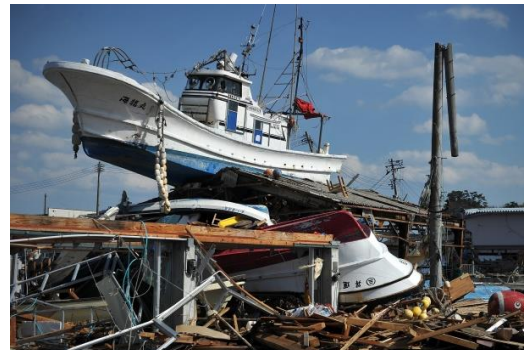
- Production and processing of *nori* is similar to industrial agriculture.
- Farming takes place in the sea where the *Porphyra* plants grow attached to nets suspended at the sea surface and where the farmers operate from boats. First harvest takes place approximately 45 days from "seeding."
- Multiple harvests (4) can be taken from a single seeding, typically at 10-14 day intervals.
- Harvesting is accomplished using mechanical harvesters which vary around Japan.
- Processing of raw *nori* is mostly accomplished by highly automated machines that duplicate traditional manual processing steps (some argue quality is lower).
- The final product is a paper-thin, black, dried sheet of approximately 18×20 cm (7.087×7.874 in) and 3 grams in weight.



Life Pre-3.11...



... to March 11, 2011 ...



... to today

Nori- Subgroup of the FCA

- 42 *nori* households working
 - 5 as individual households
 - 5 from outside the town

Shiogama, Sendai (Yuriage)

- Fishing grounds directly from FCAs
- Most wives now paid as part-time workers; one group has wives as equal partners







*“Growing [nori] ... is like raising a child;
there are difficult days, but ... the final
result provides such pleasure.”*



Snapshot of “Yesterday”

- Fishing Cooperatives own the rights to the marine resources; members have usufruct rights; coops manage their own resources
- *Nori* is a winter crop (1 Nov- 31 March), but involves preparation and work year-round; \$20m annual production
- Harvesting takes place at the household level; 804 in 1973; 104 in 2004; 75 in 2011; 42 in 2018
- There was a significant shift in population and work demographics in the 1970s: societal and environmentally related
- Current recruitment problems have increased reliance on technology and changes in cooperatives structures (consolidations)



Households groups

Traditionally multi-generational
households

Grandfather/father/son on boats/
in sea

Grandmother/Wives/girls on land



“Yesterday”

- Division of labor was more flexible, generally:
- Husbands and wives on boats together
- Wives wrap the *nori*, husbands set machinery, clean boats, and wash nets





Harvesting



Landing

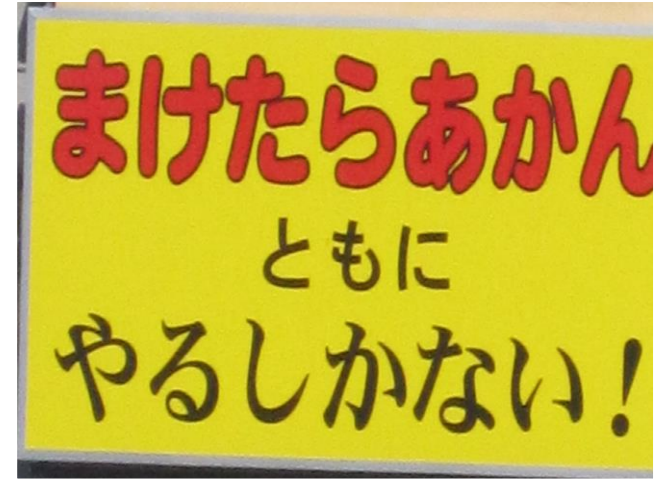


Processing



Personal Autonomy

- Personal autonomy
- Not lowering one's head
- Desire to take care of grounds & friends



”Noriyasan thrive on the enjoyment of ”what could be”; one never knows how much you can make, but you can always hope/dream”

-town council member

Current Challenges

Demographic
Environmental
Regulatory



Thank you!

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