



SFIC

Small Farms Industry Clusters Project

The Small Farms Industry Clusters (SFIC) Project

Funded by the
USDA/CSREES National Research Initiative,
Small Farms and Rural Community Vitality Initiative,
Grant No. 05-55618-15744 and supported by
The Northeastern Regional Center for Rural Development
Located at The Pennsylvania State University



A partnership among:

Cornell University, Small Farms Program

University of Maine

University of Maryland Eastern Shore

University of Massachusetts

Community and Rural Development

Institute (CaRDI, Cornell)

The Pennsylvania State University

West Virginia University and

The Northeast Regional Center

for Rural Development



About the project

3 Years: 2005-2008

6 States, and growing

\$320,000

5 Disciplines

3 Functions: research, extension, teaching



This project...



- examines how “clusters” of small farms achieve agricultural economic development and environmental management objectives
- identifies how clusters support long-term farm viability and community sustainability
- engages farmers and development professionals in research and outreach
- uses powerful computer algorithms to analyze and understand social networks



Clusters are concentrations of firms or businesses that:

- are located in relatively close proximity
- compete with each other in similar markets
- cooperate to enhance technical skills and market access
- support, through social networks, growth and development of individual businesses



Clusters are concentrations of firms or businesses that:

- share common inputs such as labor with specific skills
- recruit support industries based upon the local concentration of firms
- benefit mutually from new, location-specific knowledge generation and
- work together to respond to new demands, such as environmental goals



General research questions

- How and why do clusters form?
- What are minimal ingredients (how do we know we have one)?
- What are their benefits, their costs?
- How can clusters be nurtured for further growth?



We examine and compare clusters formed around:

1. *traditional commodities*

dairy, wines, mushrooms

2. *agricultural practices or philosophies*

organic vs. non-organic

3. *social or ethnic networks*

Hmong, female, disadvantaged





Clusters provide an ideal organizational framework for analyzing all of the factors impacting an industry:

■ ***Economic:***

- profits, transactions costs, marketing

■ ***Social:***

- formal and informal networking

■ ***Environmental:***

- impacts of farming practices on the environment and impacts of environmental regulations on farming

■ ***Biological:***

- philosophical basis underlying farm management practices





About Clusters



- The importance of clusters suggests new roles for government at [all] levels ... removing obstacles to the growth and upgrading of existing and emerging clusters takes on a priority.
- All clusters can be desirable, and all offer the potential to contribute to prosperity.
- *Benefits are internal to the cluster, not the individual firm.*

Michael Porter (2000, pp. 15, 16 and 27).

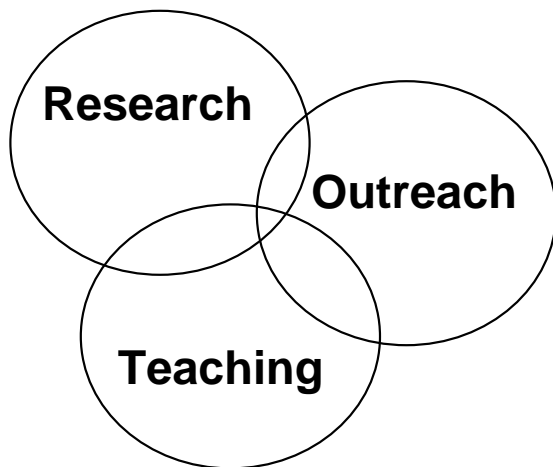


This project is multi-disciplinary, multi-functional and multi-state

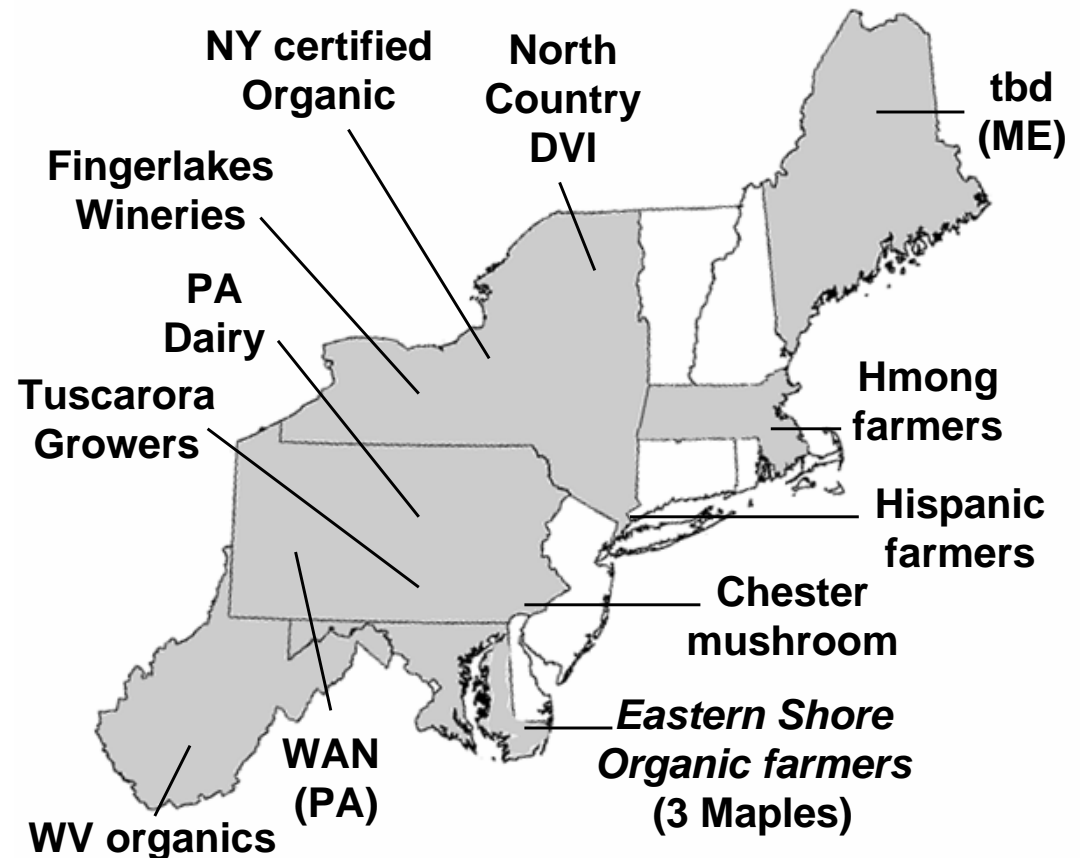
Disciplines involved:

- Horticulture
- Animal Science
- Plant and Soil Science
- Rural Sociology
- Agricultural Economics

Functions involved:



States and clusters involved (Sept. 2005):



Overview of groups studied (selected)

Name	St.	Type	Comp.	#farms
North Country DVI	NY	dairy	F,8 PU	40
Pennsylvania Dairy	PA	dairy	F,PU	100
Chester Mushroom	PA	mushr.	IS,F,CM	125
Finger Lakes Win.	NY	wine	F,70Win	75
Tuscarora growers	PA	organic	F,DM	472
NY Certified Organ.	NY	organic	PU,F,C/DM	20
3-Maples, ES	MD	organic	F,DM	52
Hmong farmers	MA	ethnic	F,CM,DM	25
Hisp. new farmer	NY	ethnic	F,DM	10
Women's ag ntwrk	PA	female	F,DM	35

Key: F=farmers, IS=input suppliers, CM=commercial, DM=direct markets, PU=proc.unit

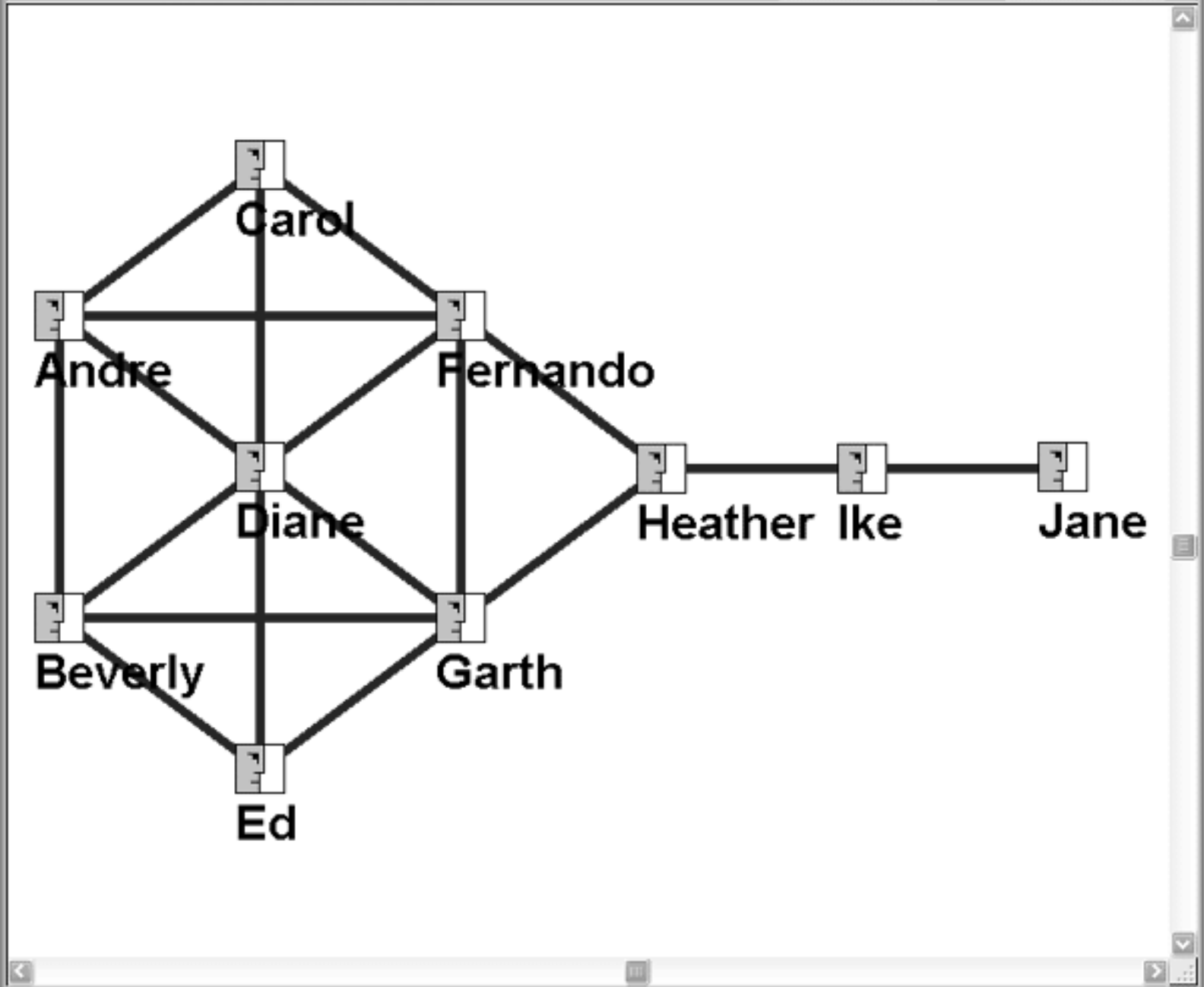


Understanding and harnessing the power of social networks

- Who talks with whom? How often?
- Who are the opinion leaders?
- Who are the between-cluster “brokers”?
- What does this mean for more effective delivery of extension materials?
- Do farmers sit back at Extension meetings or are they active participants?
- Degrees, betweenness, closeness (SNA)

Palette

Draw... Erase... Undo Redo Size: 100% Scenario: Kite Nodes: Andre



Console

Degrees

0.667	Diane
0.556	Fernando
0.556	Garth
0.444	Andre
0.444	Beverly
0.333	Carol
0.333	Ed
0.333	Heather
0.222	Ike
0.111	Jane

Betweenness

0.389	Heather
0.231	Fernando
0.231	Garth
0.222	Ike
0.182	Diane
0.023	Andre
0.023	Beverly
0.000	Carol
0.000	Ed
0.000	Jane

Closeness

0.643	Fernando
0.643	Garth
0.600	Diane
0.600	Heather
0.529	Andre
0.529	Beverly
0.500	Carol
0.500	Ed
0.429	Ike
0.318	Jane

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Examples of clusters and cluster relationships

Additional cluster profiles
are being prepared by
team members



The Mushroom Cluster in Chester County, PA



Penn State University,
Ag. Experiment Station/
Cooperative Extension

Mushroom Growers
Association of PA;
American Mushroom
Institute



J.B. Spawn Co.
Mushroom Supply Co.
L.F. Lambert Spawn Co.

Land: gentle, rolling hills
(important for houses)

Water: adequate
ground supply

Labor (Society of
Friends/Quakers):
Experienced growing
roses, carnations

Horse manure, straw,
other compost
materials

Inputs

**Mushroom
Growers**

Outputs

Transportation:
Interstate highway, rail;
proximity to major cities

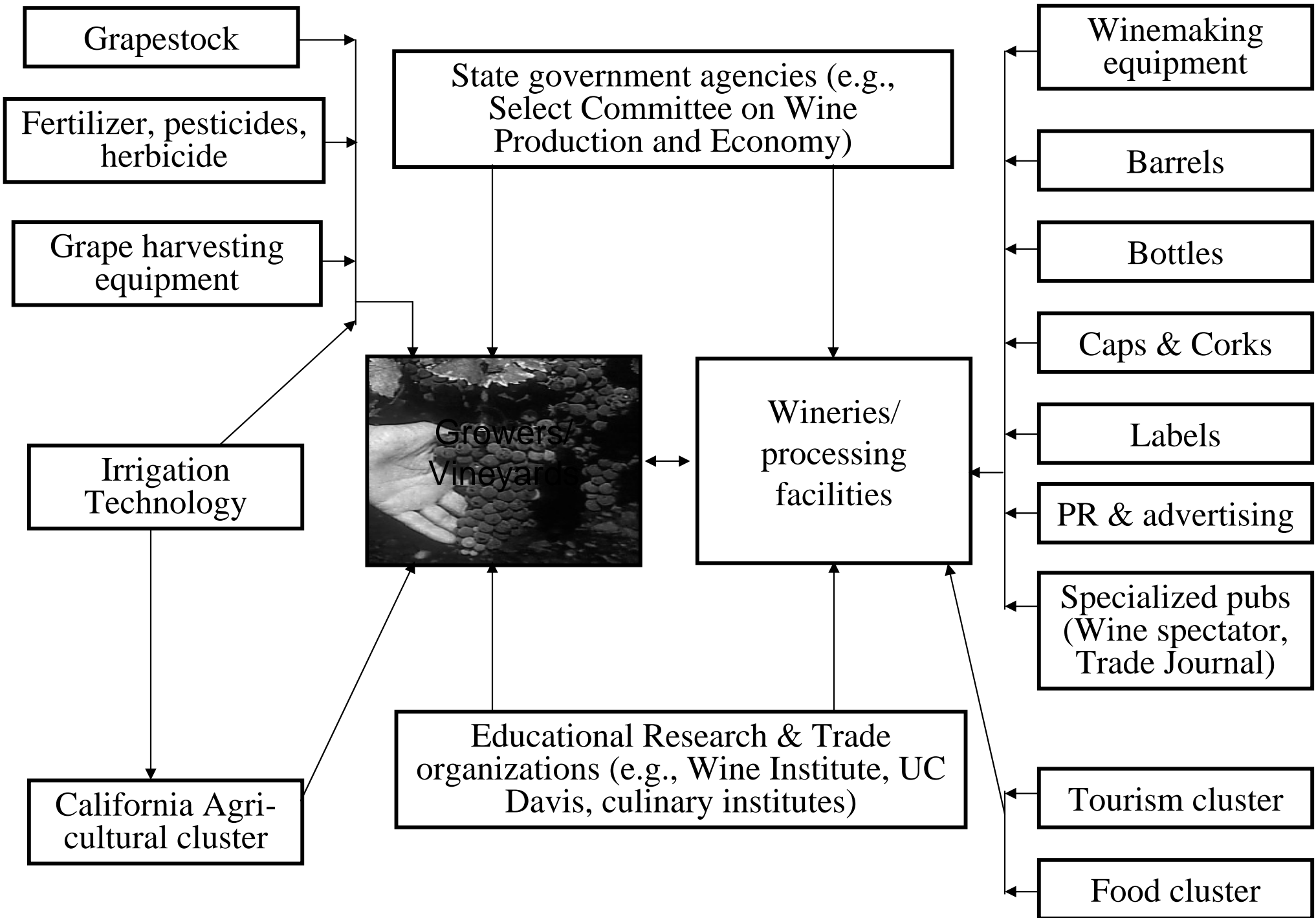
Mushroom brokers,
transporters,
packers, sellers

PA's Food &
Agriculture
Cluster

PA State/Local
Government
Agencies

*Knowledge creation and
transfer (yield increases)*

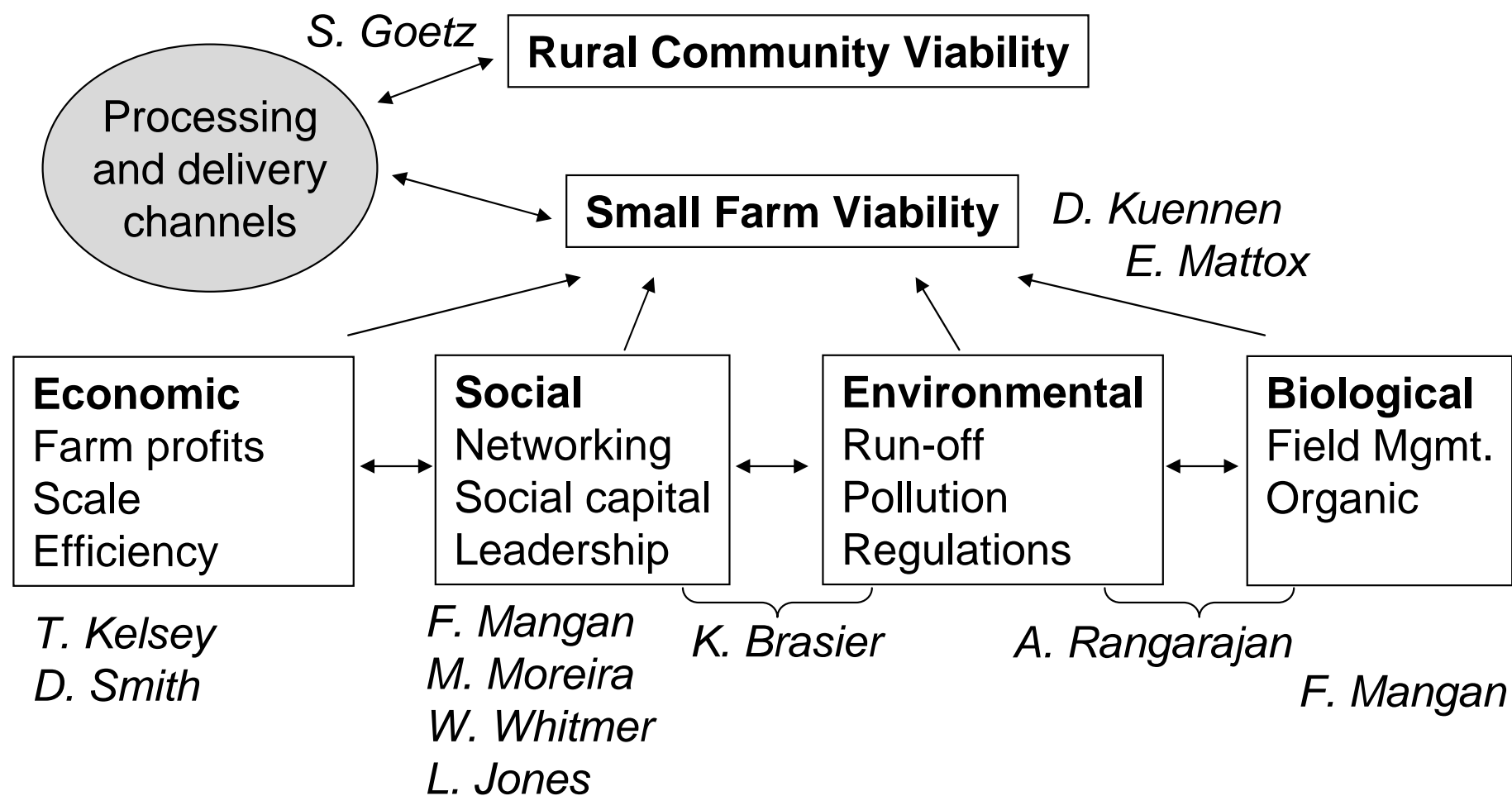
*Rules and
regulations*



California's Wine Cluster (based on Porter 2000, p.17)

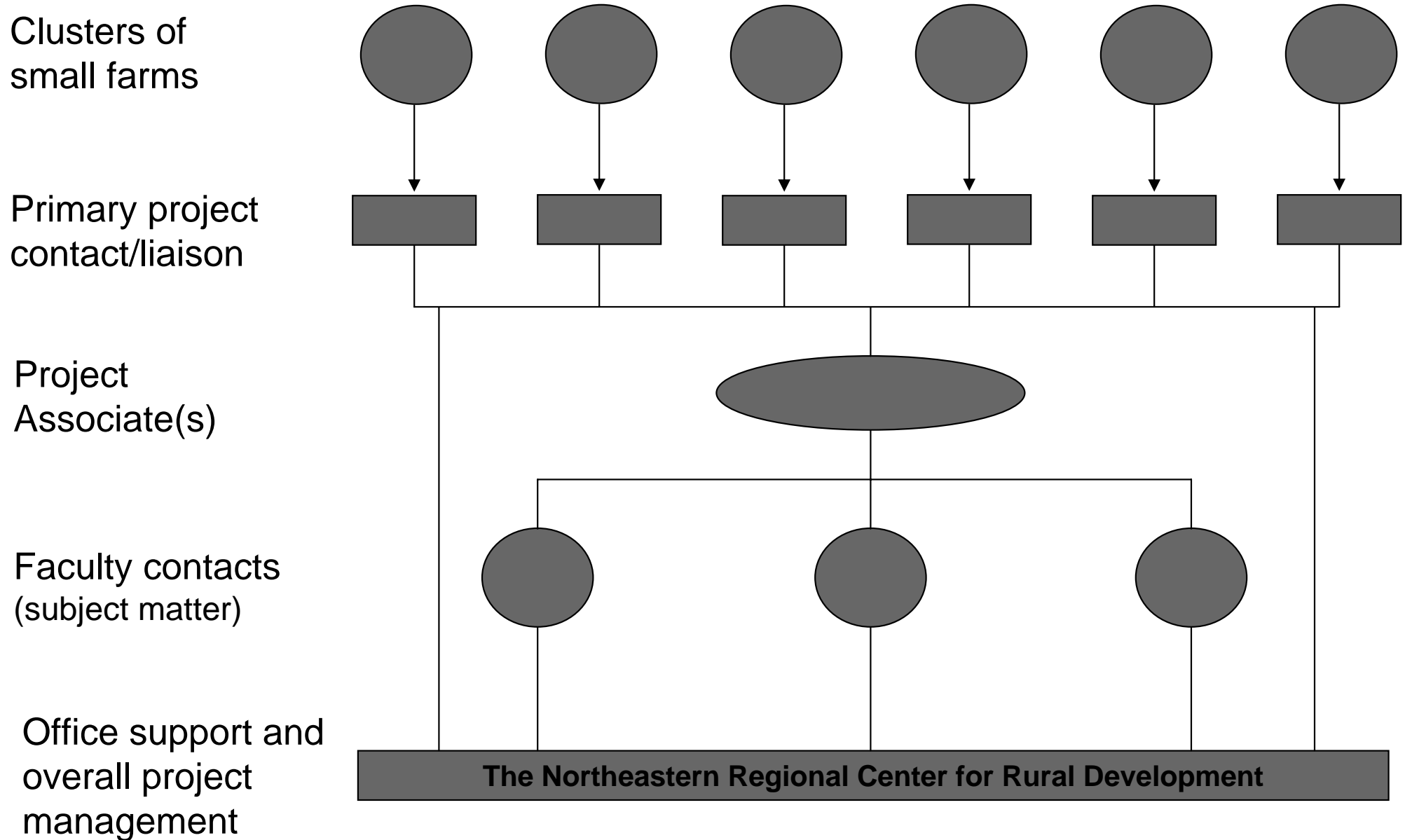
Industry Clusters for Small Farms, NRI proposal

W. Whitmer: outreach/education and cluster strategic planning
T. Gabe: cluster benefits, training
D. Smith: clusters, dairy
J. Tomlinson: workforce dev., dairy
M. Simsic: New York City cluster



(Name of co-PI or collaborator with primary responsibility shown in italics)

Overview of project participants and components





This project addresses all four *Priority Areas* of the USDA Small Farms/Rural Vitality RFA

- (a) Environmental management and biological field practices can readily be compared across different clusters

- (b) “Value chains” are essential cluster elements; we study interactions affecting high return production, processing and delivery channels



This project addresses all four *Priority Areas* of the USDA Small Farms/Rural Vitality RFA

- (c) Clusters are a natural organizing framework for studying interactions among economic, social, environmental and biological forces related to small farms and rural communities

- (d) Drawing on a close working relationship with cluster members, we solicit ideas about emerging threats and opportunities for small to medium sized farms



Data collected

- The social benefits, challenges of participating
- Resources the cluster provides
- The differing abilities, contributions and values of other members
- Changes in behavior or attitudes as a result of participating in the cluster
- How to grow and enhance clusters
- Meaning of leadership in a cluster context
- Social or cultural norms that limit or enhance cluster development

Continued on next page



Data collected

- The formal & informal interactions among members
- The economic benefits of participating
- Opportunities for sharing and learning w/i cluster
- Impact of cluster on the local community
- Farm profitability (revenues, expenditures)
- Meaning of farm sustainability, including lifestyle, community, family considerations and profits
- Farm management practices related to environmental concerns
- Marketing practices used

Looking ahead...





In a flat world, branding and regional identity are keys to (farm) prosperity



Tuscarora Organic Growers
Family Farms Marketing Cooperatively Since 1988
Home

Clusters are essential to creating a regional/brand identity

The Opportunity

- Move from producing basic commodities to providing sophisticated consumers with lasting experiences: clusters are key for creating regional brand identities
- From wine-tasting to hosting heritage trails organized around vineyards
- mummnapa.com



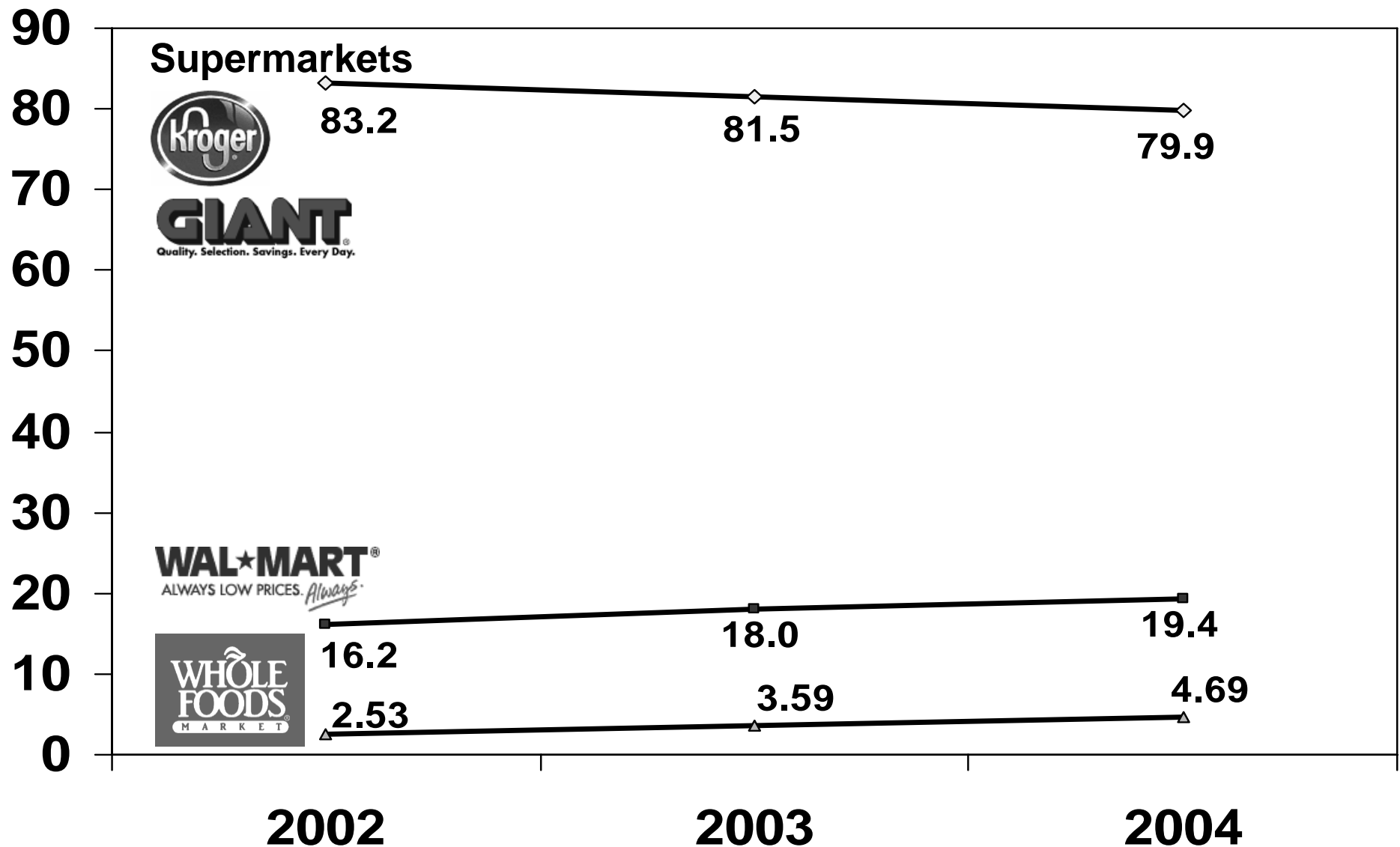
Changing Times

- 1960s and 1970s: Making things cheaper
 - mass production (Taylorism)
 - division of labor, advantage based on cost
- 1980s and 1990s: Making things better
 - Quality and speed key, automation
 - TQM, JIT, flexible specialization
- 2000s: Making better things
 - aesthetics, authenticity
 - design, innovation, uniqueness



To whom do *you* want to sell?

Estimated share of grocery market (%)



Basic data: Retail Forward



Summary of research questions

- How agricultural clusters form and function
- How participation in a cluster affects farm management practices environmental impacts, profitability and access to markets
- Whether clusters help small farmers innovate and adapt more quickly
- Whether cluster analysis can help strengthen the way these groups form and compete/collaborate
- What new research and extension needs (and opportunities) exist for a cluster as opposed to an individual grower
- Commonalities and differences among clusters based on commodity, ethnicity, agricultural philosophy, and how they affect management of production, environment and marketing of crops or products



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An Invitation

- Please contact us if you are interested in partnering on this project...

Stephan J. Goetz, Project Director

<sgoetz@psu.edu>

■ www.nercrd.cas.psu.edu

H_a: Clusters raise the profitability (sustainability) of groups of small- to medium-sized farmers beyond levels that individual farmers can achieve operating on their own.

Sub-Hypotheses:

1. Clusters with greater density among, and less distance between, members are more effective
2. Cluster benefits are greater: for small farmers, and for farms organized around ethnic groups and agricultural philosophies rather than commodities
3. Clusters organized around agricultural philosophies, social networks or ethnic groups have different environmental practices than do those organized around primary commodities

Sub-Hypotheses (cont.):

4. Clusters organized around agricultural philosophies, social networks or ethnic groups have different market access channels than clusters organized around primary commodities. *For example*, Hmong farmers in Massachusetts
5. Every cluster has a champion(s), who holds together the soft network infrastructure needed to make the cluster work
6. Clusters become more effective as they get older, become institutionalized and socially accepted in the region, and as they create a regional or brand identity