



ATTRA
SUSTAINABLE AGRICULTURE

Food System Resiliency?

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APPROPRIATE TECHNOLOGY

NCAT helps communities build self-reliance and resilience through technology solutions appropriate to local needs.

The appropriate technology movement was inspired by Stewart Brand's *Whole Earth Catalog* in the late 1960s and E.F. Schumacher's 1974 book, *Small Is Beautiful: Economics As If People Mattered*. The times were turbulent, and many Americans were motivated to become more self-reliant. They sought accessible technologies, appropriate to local conditions, to grow healthy food, produce local energy, and design efficient buildings.

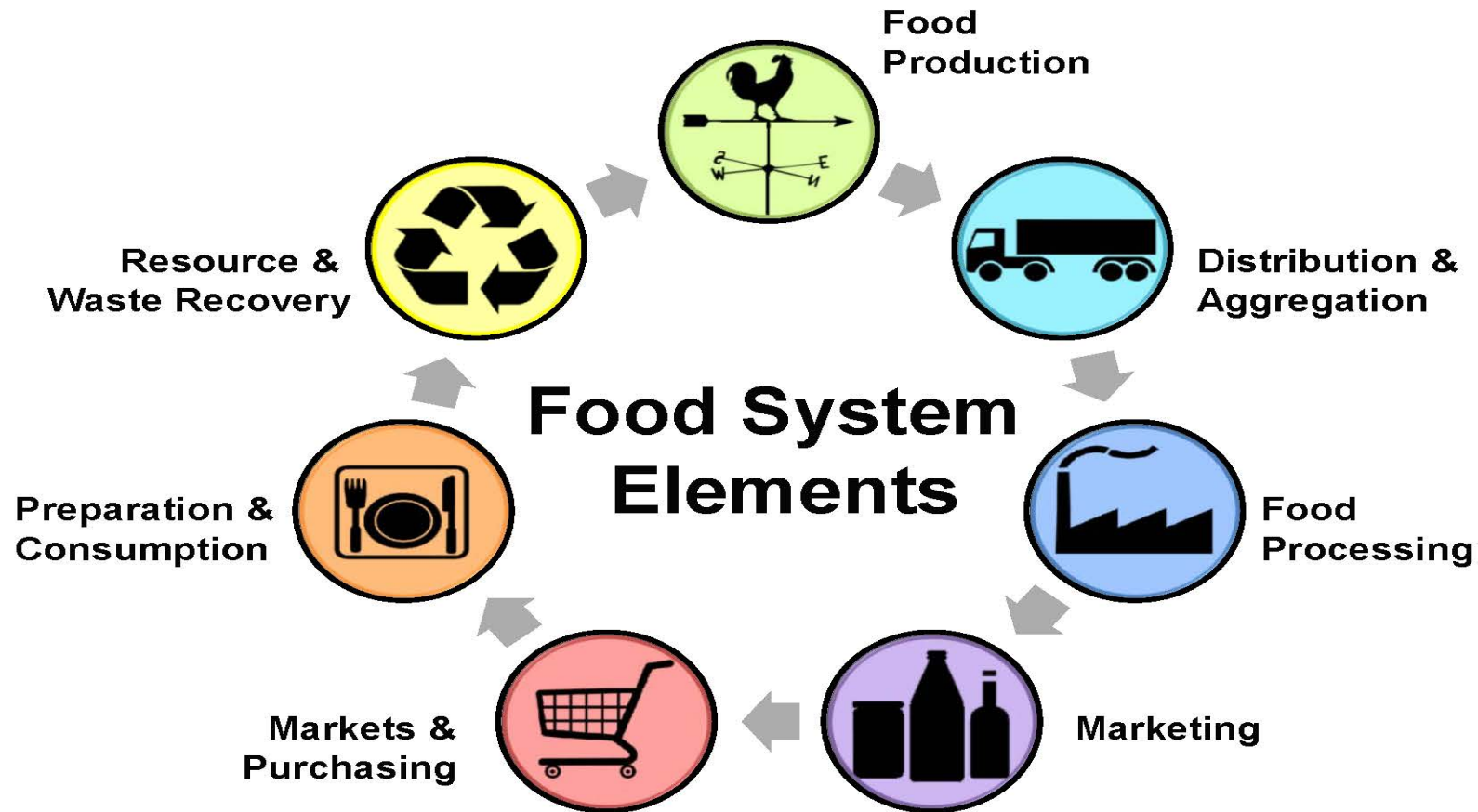
Circumstances have shifted over 50 years, but core principles remain the same. Appropriate technology should:

- Provide practical solutions to local challenges
- Be affordable and simple to use
- Reduce dependence on non-renewable energy
- Use local resources and labor to increase self-sufficiency
- Preserve the environment and human health



WHAT DOES A FOOD SYSTEM LOOK LIKE?

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Adapted by Christy Shi, Center for Environmental Farming Systems.

From: Wilkins, J. and Eames-Sheavly, M. Discovering the Food System; An experiential learning program for young and inquiring minds. Cornell University, Departments of Nutritional Science and Horticulture. <http://www.discoverfoodsys.cornell.edu/>

WHAT IS FOOD SYSTEM RESILIENCE?

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HYPOTHESIS

Our overall hypothesis is that more integrated RFNs will improve and enhance long-term opportunities for entrepreneurship and innovation, which will contribute cumulatively to social, ecological, and economic resilience.



Integrated Regional Food Network (RFN) refers to the connectedness of the actors in the RFN; the levels of connection and interaction of people, place, and prosperity with respect to social, economic, and ecological aspects. RFN marketing includes direct to consumer and local/regional intermediated sales to retail, restaurants, institutions, or distributors that maintain regional place of origin.

Entrepreneurship & Innovation refers to recognition and creation of new opportunities which stimulate new strategies, new practices, new products, and/or new markets to improve long-term prosperity for individual participants and the entire network. The New Natural Resource Economy (NNRE) economic development strategy focuses on small multifunctional businesses creating new products as a stimulus for entrepreneurship and innovation.

Resilience refers to the capacity of a system to absorb disturbance and reorganize while undergoing change so as to retain essentially the same function, structure, identity, and feedbacks. Community resilience that supports broader regional resilience relies on sense of place, access to jobs, affordable food and housing, general health, and ability to rebound after variable economic, social, or ecological shocks.

HOW MUCH DOES IT COST?

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Something isn't right': U.S. probes soaring beef prices

One hundred years ago, U.S. antitrust prosecutors broke down monopolies in meatpacking. But can they do it again?



HOW MUCH DOES IT COST?

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EDUCATION

School lunch programs are losing millions feeding hungry kids; they could be broke by fall

Daphne Duret USA TODAY

Published 4:12 a.m. ET May 31, 2020 | Updated 12:18 p.m. ET May 31, 2020



HOW MUCH DOES IT COST?

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Why Covid-19 plant shutdowns could make the Big Four meatpackers even more profitable

by Joe Fassler + H. Claire Brown
05.14.2020, 2:50pm

Business

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HOW MUCH DOES IT COST?

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DEEP DIVE

Once thriving craft beer industry dealt crippling blow by coronavirus

With brewpubs and taprooms shuttered and consumers less willing to experiment, thousands of brewers could go out of business or experience major changes to their operations.



In Bristol Bay, Alaska, locals fear Covid-19 will arrive along with 12,000 temporary salmon workers

by Bailey Berg
05.22.2020, 1:46pm

Business

HOW MUCH DOES IT COST?

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NEWS > RETAIL & FINANCIAL

UNFI CEO: Recession, new consumer habits could last 24 months

Company puts sale of Cub Food and Shoppers stores on hold

The recession has put on hold UNFI's plans to sell the grocery retailers it acquired from Supervalu, which include 79 Cub Foods stores in the Minneapolis market and about two dozen Shoppers stores in the Washington, D.C., area.

BUSINESS

Down, Down, Down: Rural Bankers Economic Confidence Sinks



by Sara Schafer 12:48PM May 21, 2020



HOW MUCH DOES IT COST?

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NEWS > ONLINE RETAIL

Online grocery sales to grow 40% in 2020

Nearly half of shoppers are buying more groceries online due to COVID-19, Coresight Research finds

Almost half of shoppers said they're buying more groceries online or have started making online purchases because of COVID-19, Coresight's study revealed.

Ahead of peak season, berry supplier Driscoll's worries market 'just is not there' amid pandemic

The coronavirus outbreak has cut sales of the California company's produce by 20% as foodservice establishments close and retailers struggle to get its products through their supply chains.



Permission granted by Driscoll's

HOW DO WE GET FOOD SYSTEM RESILIENCE?

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- ▶ Our efforts and behaviors affect the food system(s) at different levels, simultaneously:
- ▶ Individual behaviors—there is a feedback loop, but consumer behaviors drive producer behaviors;
- ▶ Collective behaviors, cultural aspects;
- ▶ Collective behaviors, political aspects and public policies.

Individual Behaviors

Producers

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- ▶ Producers (crops, animals, value-added foods) should follow regenerative agriculture practices, advanced food safety protocols and transparent/honest marketing strategies.
- ▶ Should recognize they are also consumers and citizens who need to act to influence change in the food system(s).



Photo: NCAAT

Individual Behaviors Consumers/citizens

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We all eat; we all can organize and vote

- ▶ If we want a regionally-focused, resilient food system, made up of hundreds of small, diversified actors, we must be mindful when we buy our food. We must pay attention to what signals our purchases give to producers, retailers, restaurants and policy makers.
- ▶ This is a habit we can develop and improve.
- ▶ The need for this mindfulness will probably never go away, so we must not give up on practicing it.

Collective Behaviors

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- ▶ Structural Changes and Public Policy Ramifications
- ▶ As long as diseases are chronic, not contagious, society and governments deal with the economy by letting business managers make the decisions first, and then public health officials/public policy officials deal with the damage. This could be called a *Business in All Policies* ideology. This is the norm.
- ▶ The COVID-19 situation has brought public health officials and medical officials to the forefront of governmental decision-making. This is not the norm.

Collective Behaviors

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- ▶ The contagiousness of CV-19 is what has given the medical and public health officials their newfound authority. This has given us a glimpse into the ideology of *Health in all Policies*.
- ▶ Health is a much broader concept than health care.
- ▶ What might activating such an ideology mean for our food system and its connections to food related factors that cause a wide range of diseases and poor health?

Transportation of Food

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Long haul trucking

- ▶ We currently have a long distance food system.
- ▶ Most food travels thousands of miles from farm to plate.
- ▶ Causes a great amount of air pollution.
- ▶ Contributes greatly to traffic accidents.



Water Pollution

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Fertilizer runoff



Manure overflows



Public feeding policies

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Hospitals and nursing
homes



Public school meals



Resources

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▶ NCAT and ATTRA web pages

- <https://attra.ncat.org/covid/www.attra.ncat.org>
- <https://attra.ncat.org/topics/local-food-systems/>

Other Resources

<https://www.nybooks.com/articles/2020/06/11/covid-19-sickness-food-supply/> (Michael Pollan)

<https://plantricianproject.org/> (health and regenerative ag)



ATTRA is a program of the National Center for Appropriate Technology

attra.ncat.org