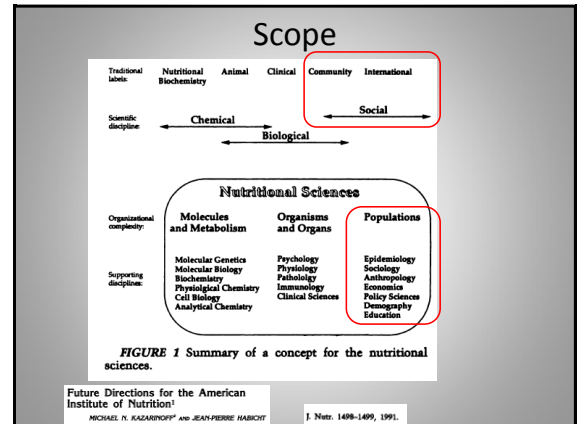


Advancing the Frontiers of Population Nutrition Research: New Questions, New Methods and New Approaches

David Pelletier, PhD
Associate Professor of Nutrition Policy
Division of Nutritional Sciences
Cornell University

Feb 18, 2013



AN
Advances in Nutrition
AN INTERNATIONAL REVIEW JOURNAL

Expanding the Frontiers of Population Nutrition Research: New Questions, New Methods, and New Approaches^{1,2}

David L. Pelletier,^{1*} Christine M. Porter,² Gregory A. Aarons,² Sara E. Wuehler,² and Lynnette M. Neufeld²

Adv Nutr 4:92-114, 2013

Outline

1. Frontiers in six dimensions
2. Rationale for these frontiers
 - Trends in society
 - *The nature of problems*
 - *Trends in science*
3. Illustrations
4. The Nature of Frontiers
5. Summary

Frontier Dimensions

- Why we study
- What we study
- Who we study
- How we study: Methods
- How we study: Approaches
- Disciplines

Dimension	Current Tendencies	Frontiers
Why	Generalizable/ fundamental knowledge re. scientific questions	Actionable knowledge of concern to stakeholders, organizations, communities, or publics at various scales; generalizable knowledge re. problem-solving

Dimension	Frontiers	Audience Survey
Why	Actionable knowledge of concern to stakeholders, organizations, communities, or publics at various scales; generalizable knowledge re. problem solving	
What	laws, regulations, norms, programs, organizations, systems, change processes in communities, programs, policies, etc.	
Who	policy makers, managers, implementers, leaders, networks, coalitions, private sector actors, citizens, universities	

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Disciplines	economics, sociology, anthropology, policy analysis, law, urban planning, political science, organizational behavior, management sciences.. and TRANSDISCIPLINARY	

Rationale for these Frontiers

1. **Trends in society**
2. *The nature of problems*
3. *Trends in science*

Trends in Society

- Nutrition has ascended on public and private agendas
- An extensive web of interconnected issues now is recognized
- Demand for results and accountability in public programs and publicly funded research
- Demand for research on effectiveness of interventions at scale (translational and implementation science)
- Nutrition must respond to these trends in order to remain relevant

Trends in Society

Trends in Society

Scaling Up Nutrition

33 Countries working to scale up nutrition

HOW COUNTRIES GET INVOLVED

Participating Countries

- B Bangladesh
- E El Salvador
- G Gambia
- I Indonesia
- K Kenya
- L Lao PDR
- M Madagascar
- N Namibia
- R Rwanda
- S Senegal
- T Tanzania
- U Uganda
- Y Yemen
- Z Zambia

Nepal
Committed to scaling up nutrition since 5 May 2011

Indonesia
Committed to scaling up nutrition since 22 December 2011

Namibia
Committed to scaling up nutrition since 16 September 2011

Mali
Committed to scaling up nutrition since 22

Haiti
Committed to scaling up nutrition since 21

Sierra Leone
Committed to scaling up nutrition since 16

Trends in Society

1,000 DAYS

Improving nutrition for mothers and children is one of the most cost-effective and impactful tools we have for poverty alleviation and sustainable development.

GET UPDATES ABOUT 1,000 DAYS

WHY 1,000 DAYS?

It's the window of opportunity

FROM OUR NEWSROOM

WFP Joins World Leaders At Davos

The vanishing middle: Why people with a healthy weight are disappearing

Trends in Society

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Trends in Society


Prime Minister's Olympic hunger summit

12 August 2012

Prime Minister David Cameron with Michel Turner, Vice-President of Brazil, Football legend Pake and Olympic double gold medalist Mi Faisel at the Olympic hunger summit in Downing Street, 12 August 2012.

Trends in Society

Prime Minister's Olympic hunger summit
12 August 2012



Prime Minister David Cameron with Michel Temer, Vice President of Brazil, Football legend Paule and Olympic double gold medalist Mo Farah at the Olympic hunger summit in Downing Street, 12 August 2012.

Trends in Society

Results and Accountability: GPRA's 20th Birthday!! (1993-2013)

GAO
U.S. GOVERNMENT ACCOUNTABILITY OFFICE

Testimony
Before the Subcommittee on Oversight of Government Management, the Federal Workforce, and the Program of Integrity, and the Subcommittee on Federal Financial Management, Government Information, Federal Services, and International Programs, Committee on Homeland Security and Governmental Affairs, U.S. Senate

MANAGING FOR RESULTS
GPRA Modernization Act Implementation Provides Important Opportunities to Address Government Challenges

Statement of Grier S. Dodaro
Comptroller General of the United States

(97:3)

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Current Priorities in Health Research Funding and Lack of Impact on the Number of Child Deaths per Year

We determined the proportion of research on child- | Jef L. Leroy, PhD, MSc, Jean-Pierre Habicht, MD, PhD, MPH, Gretel Pelto, PhD, MA, and Stefano M. Bertozzi, MD, PhD

(97:3)

Trends in Society

Trends in Society: Bottom Line Messages


- Nutrition has "arrived"
- "Nutrition" is no longer just "nutrition"
- How can we deliver results at-scale?

Rationale for these Frontiers

1. Trends in society
2. The nature of problems
 - Simple, complicated, complex, wicked
3. Trends in science

The Nature of Problems

Four Types of Problems




Simple

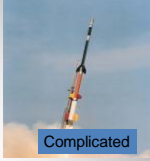
Adapted from: *Getting to Maybe: How the World is Changed*. Westley, Zimmerman, Patton, 2006

The Nature of Problems

Four Types of Problems



Simple




Complicated

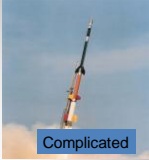
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The Nature of Problems


Four Types of Problems



Simple



Complicated




Complex

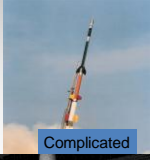
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The Nature of Problems


Four Types of Problems




Simple



Complicated



Complex



Socially Complex

Adapted from: *Getting to Maybe: How the World is Changed*. Westley, Zimmerman, Patton, 2006

The Nature of Problems

Technical vs Wicked Problems

- Indeterminacy in problem formulation
- Non-definitiveness in problem solution
- Non-solubility
- Irreversible consequentiality
- Individual uniqueness

Rittel, H. W. J., & Webber, M. M. (1973). Dilemmas in a general theory of planning. Policy Sciences, 4, 155–169.

The Nature of Problems

The role of business and cross-sector collaboration in addressing the ‘wicked problem’ of food insecurity

Ralph Hamann, Stephanie Giamporcaro, David Johnston & Schirin Yachkaschi
Development Southern Africa Vol. 28, No. 4, October 2011

Principles for Framing a Healthy Food System

MICHAEL W. HAMM
*Dept. of Community, Agriculture, Recreation, and Resource Studies
Crop and Soil Sciences, Food Science and Human Nutrition,
Michigan State University, East Lansing, Michigan, USA*

Wicked problems are most simply defined as ones that are impossible to solve. In other words, the range of complex interacting influ-

Batie *Wicked Problems and Applied Economics* 1177

Table 1. Summary of Differences Between Tame and Wicked Problems

Characteristic	Tame Problem	Wicked Problem
1. The problem	The clear definition of the problem also unveils the solution ***	No agreement exists about what the problem is. Each attempt to create a solution changes the problem ***
	The outcome is true of false, successful or unsuccessful ***	The solution is not true or false—the end is assessed as “better” or “worse” or “good enough” ***

Batie, 2008. *Amer. J. Agr. Econ.* 90 (Number 5, 2008): 1176–1191. (Author holds endowed Chair in Food and Agricultural Economics Policy, Dept of Agricultural, Food, and Resource Economics at Michigan State University)

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2. The role of stakeholders	The problem does not change over time The causes of a problem are determined primarily by experts using scientific data	The problem changes over time Many stakeholders are likely to have differing ideas about what the “real” problem is and what its causes are

Source: Adapted from Krester et al. (2004).
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3. The “stopping rule”	The task is completed when the problem is solved	The end is accompanied by stakeholders, political forces, and resource availability. There is no definitive solution

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3. The “stopping rule”	The task is completed when the problem is solved	The end is accompanied by stakeholders, political forces, and resource availability. There is no definitive solution
4. Nature of the problem	Scientific based protocols guide the choice of solution(s) ***	Solution(s) to problem is (are) based on “judgments” of multiple stakeholders ***
	The problem is associated with low uncertainty as to system components and outcomes ***	The problem is associated with high uncertainty as to system components and outcomes ***
	There are shared values as to the desirability of the outcomes ***	There are not shared values with respect to societal goals ***

Source: Adapted from Krester et al. (2004).
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Batie *Wicked Problems and Applied Economics* 1185

Figure 4. Wicked versus tame problems

Batie, 2008. *Amer. J. Agr. Econ.* 90 (Number 5, 2008): 1176–1191. (Author holds endowed Chair in Food and Agricultural Economics Policy, Dept of Agricultural, Food, and Resource Economics at Michigan State University)

The Nature of Problems

“Because wicked problems are in essence “expressions of diverse and conflicting values and interests” (Norton, 2012, p. 450), the process of working with them is fundamentally social, and should not be scientized in the conventional sense (Conklin & Weil, 2007).”

Xiang (Editorial) *Landscape and Urban Planning* 110:1–4, 2013

The Nature of Problems

Implications of Wicked Problems for the Research Approach

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“By examining a wicked problem as a whole through a panoramic social lens rather than a scientific microscope, and working with it through an open and heuristic process of collective learning, exploration, and experimentation, the APT approach promises to be efficacious in fostering collaborative behavior, reducing conflicts, building trust among all stakeholders and communities involved, and ultimately producing better and more satisfying results.

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“With more empirical research and applications, a more developed APT approach, along with innovative methods and skill sets, will be a competent alternative to the traditional solution-seeking approaches.”

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FRONTIER HERE

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Dimension	Current Tendencies	Frontiers
Why	Generalizable/ fundamental knowledge re. scientific questions	Actionable knowledge of concern to stakeholders, organizations, communities, or publics at various scales
What	nutrients, nutritional status, food and nutrient intake, food insecurity, behavior.	laws, regulations, norms, programs, organizations, systems, change processes in communities, programs, policies, etc.
Who	women, infants, children, elderly, consumers..	policy makers, managers, implementers, leaders, networks, coalitions, private sector actors, citizens, universities
How (methods)	limited range of quant and qual methods: Interviews, focus groups, regression, trials...	social network analysis, discourse analysis, Q methodology, document analysis, media analysis, process tracing, stakeholder analysis, influence mapping, program impact pathways, etc
How (approach)	detached, objectivist, positivist, reductionist, behaviorist, hypothesis testing	engaged, participatory, action research, CBPR, participant-observer, reflection in action, embedded, emergent, systems- and complexity-oriented, reflexive, etc
Disciplines	Nutrition, epi/biostatistics, biomedicine, psychology, social psychology...	economics, sociology, anthropology, policy analysis, law, urban planning, political science, organizational behavior, management sciences.. and TRANSDISCIPLINARY

The Nature of Problems

The Nature of Problems:
Bottom Line Message

“We can't solve problems by using the same kind of thinking we used when we created them.”
Einstein

Rationale for these Frontiers

1. Trends in society
2. The nature of problems
3. Trends in science
 - Socio-ecological framework (revisited)
 - Complex Adaptive Systems
 - Mode 2 Knowledge Production

The Socio-Ecological Framework

Levels of Influence in the Social Ecological Model

<http://depts.washington.edu/waction/plan/append/a.html>

Social Ecological Approaches to Individuals and Their Contexts: Twenty Years of Health Education & Behavior Health Promotion Interventions

Shelley D. Golden, MPH¹ and Jo Anne L. Earp, ScD¹ Health Education & Behavior 39(3) 364-372

Level	Activities (%)	Targets (%)
Individual	~95	~95
Interpersonal	~70	~40
Institutional	~40	~40
Community	~20	~15
Policy	~10	~10
1 Level	~40	~40
2 Levels	~45	~45
3 Levels	~30	~30
4 Levels	~10	~10
5 Levels	~5	~5

Figure 1. Percentage of articles describing intervention activities and targets of change at different levels of the social ecological model (n = 157) (Intervention articles published 1989-2008) ("institutional" includes staff training)

The Individual-Centered Ecological Framework

The Individual-Centered Ecological Framework

Number of Levels of the Socio-Ecological Model Addressed in 105 Data-Based Nutrition Papers *

(data from Richard et al. Ann. Rev. Public Health 2011. 32:307-26)

Time Period	1-2 levels	>2 levels
1988-90	~8	~2
1998-00	~10	~2
2007-09	~25	~2

* Published in American Journal of Health Promotion, the American Journal of Preventive Medicine, Preventive Medicine, and Health Education Quarterly/Health Education and Behavior; Journal of Nutrition Education/Journal of Nutrition Education and Behavior.
 ** Levels are: Individual, Interpersonal, Organizational, Community, Political, Other

Papers Published in Journal of Nutrition, Jan 2010-Aug 2012
(Community and International sections only)

Number of research papers: 80
Number focusing on individuals: 80

Policy/program-focused symposia: 2

Trends in science

What We Study: New Objects and Questions

New Questions

- How are these formed?
- How do they change?
- What do they do?
- How are they implemented?
- What are their effects?

- Intended
- Unintended
- Positive
- Negative

Levels of Influence in the Social Ecological Model

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Trends in science

Using Our Socio-Ecological Models: Bottom Line Message

“Standard public health planning models share several attributes: an objective epistemology, an assumption that planning and implementation are two separate linear sequential activities, and an assumption that social systems change can be predicted and controlled. “

Sanderson, I. 2000, “Evaluation in complex policy systems,” *Evaluation*, Vol. 6, No. 4, pp. 433-454

Trends in science

Complex Adaptive Systems

“I think the next century will be the century of complexity”
S. Hawking

“Every PhD student in everything should get to grips with the ‘chaos/complexity’ programme, not for reasons of fashion or even legitimate career building, but because this is the way the world works and we need to understand that”
D. Byrne

In: Complexity and the Social Sciences

Complex Adaptive Systems

Characteristics of Complex Systems

Properties of Complex Adaptive Systems

- diverse agents that learn
- nonlinear interdependencies
- self-organization
- emergence
- co-evolution w/ environment

Trends in science

Systems in Public Health

Towards a complexity framework for managing projects
Ashok K Pandit, L Ganapathy, Narayanasamy Sambandan
Emergence : Complexity and Organization; 2007; 9, 4: ABI/INFORM Global

Evaluating health systems strengthening interventions in low-income and middle-income countries: are we asking the right questions?
Implications of complex adaptive systems theory for the design of research on health care organizations
Tahereh Adams^{1,2}, Justin Dora¹, Don de Savigny¹, John S Lurie¹, John-Arne Rotstein¹ and Dan de Savigny¹
Health Policy and Planning 2012;27:i9-i19

Systems thinking for strengthening health systems in LMICs: need for a paradigm shift
Tahereh Adams¹ and Dan de Savigny¹
Health Policy and Planning 2012;27:i1-i3

Interdisciplinarity and Systems Science to Improve Population Health
A View from the NIH Office of Behavioral and Social Sciences Research
Patricia L. Malen, PhD, Deborah H. Omer, PhD, Glen D. Morgan, PhD, David B. Stewart, PhD
Am J Prev Med 2008;35(2S)

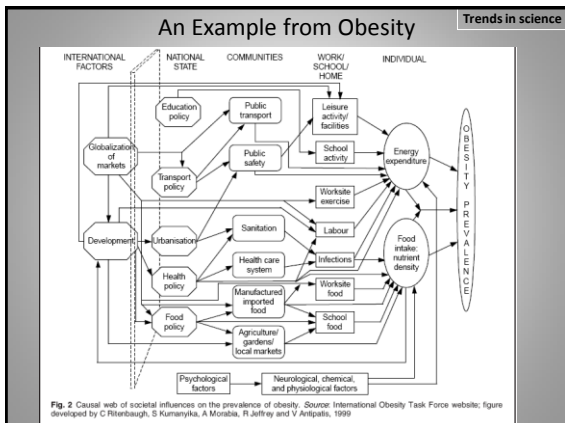
Systems Thinking to Improve the Public's Health
Scott J. Leitchow, PhD, Allan Best, PhD, William M. Trochim, PhD, Pamela I. Clark, PhD, MSPH, Richard S. Callaway, BS, Stephen E. Marcus, PhD, Esa Matthews, MPH
Am J Prev Med 2008;35(2S):S196-S203

Trends in science

Complexity and its Properties

EDITORIAL
Complexity, simplicity, and epidemiology
Neil Pearce^{1,2*} and Franco Merletti³
International Journal of Epidemiology 2006;35:515-519

“It is difficult, nowadays, to open a popular science magazine, or a leading science journal, without reading about complexity, the approach to science that is expected to ‘define the scientific agenda for the 21st century’.¹ Complexity theory is influencing fields as diverse as physics,² cosmology,³ chemistry,⁴ geography,⁵ climate research,⁶ zoology,⁷ biology,⁸ evolutionary biology,⁹ cell biology,¹⁰ neuroscience,¹¹ clinical medicine,¹² management,¹³ and economics.¹⁴ However, it has to date had relatively little influence on the theory and practice of epidemiology.¹⁵ In this paper we review the basic concepts of complexity theory and discuss their relevance to epidemiology.”



Trends in science

The Obesity System

From the Foresight Project: <http://www.bis.gov.uk/foresight>

<http://www.shiftn.com/obesity/zoom-map.html>

Trends in science

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Trends in science

Mode 2 Knowledge Production

Table 1 Properties of mode-1 and mode-2 science

Mode-1 science	Mode-2 science
Academic	Academic and social
Mono-disciplinary	Trans- and interdisciplinary
Technocratic	Participative
Certain	Uncertain
Predictive	Exploratory

The central elements of sustainability science:

- inter- and intra-disciplinary research
- co-production of knowledge
- co-evolution of a complex system and its environment
- learning through doing and doing through learning
- system innovation instead of system optimization

Martens, P. 2006. *Sustainability: Science, Practice and Policy* 2(1):36-41.

Trends in science

Interdisciplinarity and Systems Science to Improve Population Health: A View from the NIH Office of Behavioral and Social Sciences Research

Programmatic Direction #1. Next-Generation Basic Science

- Gene–environment interactions
- Environmental effects on physiology
- Technology, measurement, and methodology
- Social integration and social capital
- Complex adaptive systems
- Social movements and policy change

Programmatic Direction #2. Interdisciplinary Research

Programmatic Direction #3. Systems Science and Health

Programmatic Direction #4. Population Impact

Mabry, et al., Am J Prev Med 2008;35(2S):S211–S224

Trends in science

Research on Wicked Problems and Complex Adaptive Systems

“Much of the research and scholarship, as substantive as it may seem, remains largely a repetitive description of the social reality of wickedness, rather than well-grounded theoretical explorations or empirical investigations.

“Aside from substance, the peer reviewed scholarly publications on wicked problems remain modest in quantity—our recent survey found a total of 332 cited papers on the Scopus database in the Elsevier Editorial System, and 162 on Web of Science. They are also geographically scattered, presenting a huge disparity across the world.”

Xiang (Editorial) 2013

Trends in science

Research on Wicked Problems and Complex Adaptive Systems

“Much of the research and scholarship, as substantive as it may seem, remains largely a repetitive description of the social reality of wickedness, rather than well-grounded theoretical explorations or empirical investigations.

“Aside from substance, the peer reviewed scholarly publications on wicked problems remain modest in quantity—our recent survey found a total of 332 cited papers on the Scopus database in the Elsevier Editorial System, and 162 on Web of Science. They are also geographically scattered, presenting a huge disparity across the world.”

Continent	Articles	Percentage
Africa	3	0.9
Asia	24	7.2
Europe	113	34.0
North America	135	40.7
Oceania	54	16.3
South America	3	0.9
Total	332	100

Xiang (Editorial) 2013

Trends in science

Trends in Science: Bottom Line Messages

“I think the next century will be the century of complexity”
S. Hawking

“Every PhD student in everything should get to grips with the ‘chaos/complexity’ programme, not for reasons of fashion or even legitimate career building, but because this is the way the world works and we need to understand that”
D. Byrne

“If you want to truly understand something, try to change it.”
Kurt Lewin

Dimension	Current Tendencies	Frontiers
Why	Generalizable/ fundamental knowledge re. scientific questions	Actionable knowledge of concern to stakeholders, organizations, communities, or publics at various scales
What	nutrients, nutritional status, food and nutrient intake, food insecurity, behavior..	laws, regulations, norms, programs, organizations, systems, change processes in communities, programs, policies, etc.
Who	women, infants, children, elderly, consumers..	policy makers, managers, implementers, leaders, networks, coalitions, private sector actors, citizens, universities
How (methods)	limited range of quant and qual methods: Interviews, focus groups, regression, trials...	social network analysis, discourse analysis, Q methodology, document analysis, media analysis, process tracing, stakeholder analysis, influence mapping, program impact pathways, etc
How (approach)	detached, objectivist, positivist, reductionist, behaviorist, hypothesis testing	engaged, participatory, action research, CBPR, participant-observer, reflection in action, embedded, emergent, systems- and complexity-oriented, reflexive, etc
Disciplines	Nutrition, epi/biostatistics, biomedicine, psychology, social psychology...	economics, sociology, anthropology, policy analysis, law, urban planning, political science, organizational behavior, management sciences... and TRANSDISCIPLINARY

Illustrations

Selected Research Projects

Where	When	Who	What	How/ Methods	How/ Approach
W. Samoa	1982-84	Male laborers	CHD risk factors	Surveys	Mode 1
NYS	1984	W.I.C. Seniors, Homeless	Unmet need	Data systems	Participant-observer
Malawi	1985-88	Govt	Response to disaster	Experience	Participant-observer
Global	1988-96	Children	Mortality	Meta-analysis	Mode 1
NYS	1989-99	Communities	Planning	Experience, Q method	Participant-observer/ PAR
US	1998-06	FDA	Policy formulation	Documents, interviews	Detached
US/FD	2010-p	5 Comm Orgs	Fd System Change	Multiple	Partic-obs/PAR
5 LICs/MNI	2006-9	National policy comms	Policy formulation	Experience, interviews	Participant-observer
5 LICs/PAG	2009-p	Implementers	Policy implementation	Experience, surveys	Participant-observer
4 LICs SuNCAp	2012-p	National policy comms	Strategic cap. Adaptive mgt.	Multiple	Developmental evaluation/PAR

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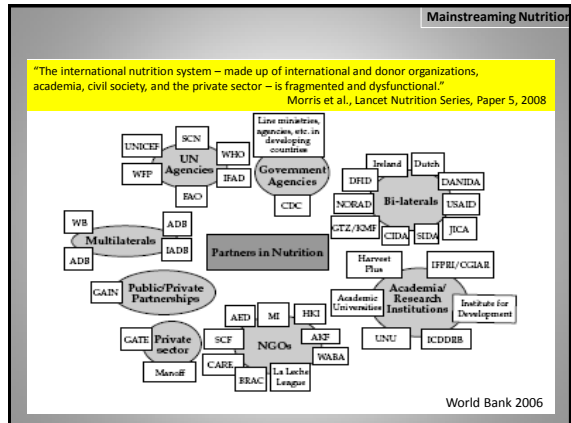
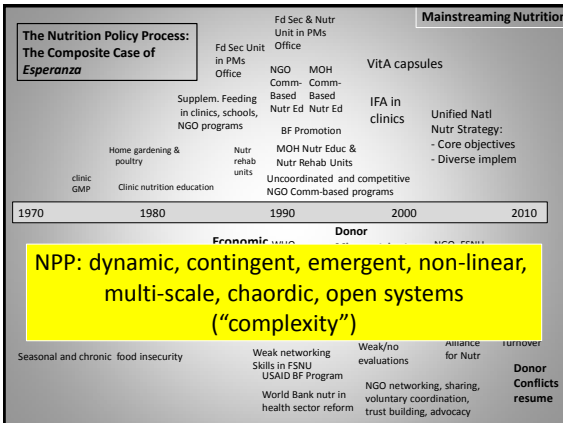
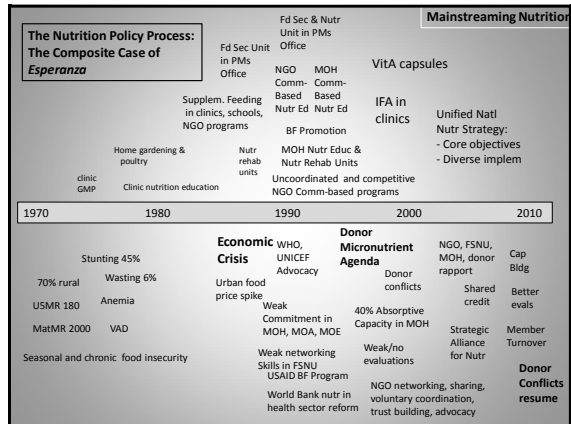
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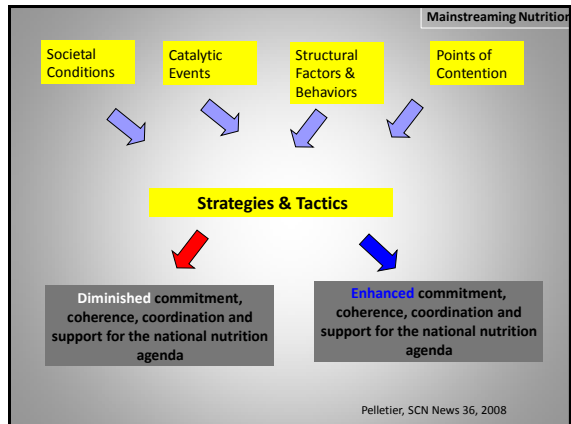
Recent and Current Research

- Mainstreaming Nutrition Initiative
- Program Implementation
- SuNCaP



Mainstreaming Nutrition Initiative

- Funded by World Bank nutrition section
 - ICDDR,B, Cornell: 2006-8
 - Objective: develop approaches and experience in moving nutrition from the status of a marginal issue with time-limited funding to a permanent feature on policy agendas and in MCN programs and policies
1. Cross-country study (interviews, written case studies, observations)
 - 30 respondents (nationals, researchers, NGOs, donors)
 - 18 country experiences
 2. Focal countries (participant-observer and interviews):
 - Bolivia, Guatemala, Peru
 - Vietnam, Bangladesh
 3. Conflict and consensus sub-studies (interviews)
 - Bolivia
 - Guatemala



Points of Contention

Mainstreaming Nutrition

"[] the donors and NGOs basically could not get their act together because they were all arguing for their own special interest or their own view of how things ought to be handled for nutrition." (International researcher and consultant to countries)

Figure 5.1 Principal development partners supporting nutrition

Strategies and Tactics

Mainstreaming Nutrition

"[] they had a lot of disagreements but they always went ahead with one voice. They sat behind closed doors and didn't get out, but then they put on a good face when they came out and had one recommendation. (Donor agency)

Strategic Capacity

Mainstreaming Nutrition

Societal Conditions Catalytic Events Structural Factors & Behaviors Points of Contention

"Strategic Capacity"

Diminished commitment, coherence, coordination and support for the national nutrition agenda

Enhanced commitment, coherence, coordination and support for the national nutrition agenda

Pelletier, SCN News 36, 2008

Strategic Capacity

The human and institutional capacity to:

- build commitment, vision and consensus towards a long-term national nutrition agenda,
- broker agreements, **i.e. the ability to work within a Complex Adaptive System!!!**
- resolve conflicts,
- respond to recurring challenges and opportunities,
- build relationships,
- undertake strategic communications,
- strengthen operational capacities and implementation as part of the national nutrition agenda

Pelletier, D., Frongillo, D., Frongillo, E.A., Gervais, S.G., Menon, P., Ngo, T. (2011) *The Nutrition Policy Process: The Role of Strategic Capacity in Advancing National Nutrition Agendas. Food and Nutrition Bulletin* 32(2): 559-569

The Challenge

Program Implementation

Pelletier, AED PAG Training Jan 5-7, 2011

Program Assessment Guide

Program Implementation

gain, CDC, A2Z, USAID, AED, Bill & Melinda Gates Foundation, The Micronutrient Initiative, unicef

Pelletier, AED PAG Training Jan 5-7, 2011

Program Assessment Guide (PAG)

Processes

Participatory Procedures To Strengthen:

- The Systematic Integration Of Evidence, Contextual Knowledge & Experience
- Shared understanding, commitment, ownership, motivation & capacity to advance the micronutrient agenda
- Links with the broader nutrition and health agendas in the country

Outputs

- Action Plan to Address Barriers & Enablers
- Operations Research Agenda
- Issues for Inclusion in M&E
- Strategic Plan to Build Support, Capacity & Sustainability

Pelletier AED PAG Training Jan 5-7, 2011

Applications of the PAG

- Kyrgyzstan (micronutrient powders)
- Bolivia (micronutrient powders)
- Nepal (iron-folate supplements)
- Tanzania (iron-folate supplements)
- Haiti (mobile clinic w/ IFA)
- Haiti (community-based programs w/ multiple interventions)
- Haiti (Child Health Weeks w/ vit A)

Lessons Learned

- Sponsorship, Responsibility, Commitment, Follow-up
- Timing
- Preparation
- Participants
- Contextuality (selection and sequencing)
- Time constraints
- Facilitation

Before the workshop

During the workshop

The PAG Process

Laying the Groundwork: 3-4 months. Address key issues for Groundwork and Follow-Through: M&E, Operational Research, Capacity Building, Policy Support for Management and Operational Sustainability.

Follow-Through: 3-6 months.

Pelletier AED PAG Training Jan 5-7, 2011

SuNCaP

(Sustainable Nutrition Capacities Project)

- UNICEF/EU, 3 year project
- Build on MNI and PAG
- Focus on:
 - Strategic capacities
 - Adaptive Management
 - Developmental Evaluation

AFRICA Political Map

LEGEND: International Boundaries, Country Borders, Country Capital

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AFRICA Political Map

LEGEND: International Boundaries, Country Borders, Country Capital

The Nature of Frontiers

- Detailed maps do not exist – they are vague, sketchy and made during exploration and settlement
- Explorers must be willing to embrace uncertainty, danger, hardship and hunger, so the tangible rewards (and/or the quest for discovery) must be substantial
- New tools, skills and relationships will be needed to survive and thrive in the new lands
- Native inhabitants, fellow travelers and explorers from other lands possess valuable knowledge to aid the process
- Frontiers move in many directions and over varied terrains, so diversity in focus and approach is warranted

Summary

- Nutrition has "arrived"
- "Nutrition" is no longer just "nutrition"
- How can we deliver results at-scale?

"We can't solve problems by using the same kind of thinking we used when we created them."
Einstein

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Complexity	Complexity	Complexity
Why: Generalizable/Academic/ Knowledge in research	Why: Academic knowledge of systems to understand, improve, or communicate to public at various scales	
What: necessary, multifaceted context, fluid and various needs, fluid knowledge, feedback systems, culture, values, ethics, etc.	What: basic, replicable, norms, programs, organizations, systems, change processes in communities, programs, activities, etc.	
Who: systems, culture, values, ethics, etc.	Who: public, private, managers, implementers, leaders, researchers, students, general social actors, etc.	
How: limited range of quant and qual methods, interviews, focus groups, regression, etc.	How: social network analysis, discourse analysis, (i) monitoring, structural analysis, world analysis, process tracing, stakeholder analysis, influence mapping, program logic, portfolios, etc.	
How (methods): data-based approaches, feedback, etc.	How (methods): research participation, action research, CRM, participatory planning, reflection in action, etc.	
Outcomes: theoretical, methodological, translational, and knowledge of population	Outcomes: research, knowledge, understanding, policy analysis, best, better planning, critical science, organizational behavior, management sciences	

Acknowledgments

to everyone in my Complex Adaptive (Learning) System

