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## Linking Information to Action : "Experiences from The U.S. and Developing Countries

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### ABSTRACT

Nutrition surveillance can sometimes be a powerful tool for raising awareness of nutrition problems at national and community levels and for promoting improved policies and programs to improve nutrition. Whereas many countries have been collecting nutrition surveillance data for several years, the experience is often discouraging in terms of converting this data into information deemed useful by decision-makers and in terms of demonstrating impacts on decision-making. This presentation will describe the results of multi-country review of this problem undertaken by UNICEF in 1992-1994, the revised concept of "Nutrition Information Strategies" that emerged from the review, and the efforts currently underway at community level in upstate New York to implement this revised concept.

### Nutrition monitoring and surveillance<sup>1)</sup> : characteristics and assumptions

Nutrition monitoring in the U.S., and nutrition surveillance in international settings, are intended to improve decisions that have a direct or indirect impact on the nutritional status of populations. The method by which they attempt to do this is based on the collection and analysis of data-based information and the dissemination of that information to relevant decision-makers. There are certain skills and concepts that have come to be commonly recognized as central to nutrition monitoring and surveillance. These include, but not limited to, the following: statistics, data, epidemiology, measurement, surveys, EPI-info, need as-

essments, prevalence, indicators, and dissemination.

When applied in real-world nutrition monitoring and nutrition surveillance projects, these skills and concepts become part of an overall approach that has the following distinguishing characteristics: quantitative, written reports, supply-driven, atheoretical/mechanical, top-down, producing information, technocratic, systematic, monologue, requiring training and skills, and prescriptive.

The overall observation derived from an examination of surveillance and monitoring projects around the world is that information is produced by technocrats and disseminated to decision-makers, with the expectation that it can and will be used by them to take actions that will improve nutrition. A few of the unstated assumptions are that the lack of information is an important constraint to improving nutrition, that the information provided by technocrats is of type required, and that the resources and commitment exist for solving nutrition problems.

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1) Nutrition monitoring refers to periodic observation and measurement of the nutritional status of a population. Nutrition surveillance refers to the continuous collection of nutrition-related data on high-risk populations participating in nutrition programs.

The purpose of this essay is to critically examine these assumptions, and to make use of theory and experience from other fields to propose a more realistic and effective approach for improving nutrition-relevant decisions.

### Conclusions from a review of nutrition surveillance in developing countries

Nutrition surveillance in developing countries set out to provide sound information on the nutritional status of populations and the factors affecting it, in order to promote incremental improvements in decision-making and action to improve nutrition. These are important but an intensive UNICEF/FAO/WHO review of experiences in ten countries in 1992<sup>2)</sup> determined that the impact on decision-making is relatively weak. The reasons for this, as determined in the review, are as follows:

- 1) Multi-sectoral nature of causes and required solutions
- 2) Weak awareness/interest in nutrition among key decision-makers
- 3) Poor understanding of the nature of nutrition problems
- 4) Little agreement about the causes of nutrition problems
- 5) Marginalization of nutrition (and surveillance) from key decision-making processes and control over resources (i.e., Nutritionists did not have access to decision-makers).
- 6) Focus on nutritional status data as the key element of surveillance systems (i.e., Focus on the consequences not the causes of nutrition problems)

2) UNICEF. 1992. Towards an improved strategy for nutritional surveillance. Nutrition Section. UNICEF/ New York.

3) Patton MQ. 1986. Utilization-focused evaluation. 2nd ed. Sage Publications, Newbury Park

4) Although the terms "planning" and "evaluation" are often used to denote different activities, and are often institutionally separated, they share much in common in the context of the present discussion.

7) Weak capabilities for analyzing nutrition situations, using conceptual tools rather than strictly statistical ones (i.e., Weak capabilities for identifying the causes of nutrition problems and decision-makers)

8) Weak communication with decision-makers

The countries included in the above review were China, Thailand, Vietnam, Botswana, Niger, Malawi, Tanzania, Mexico, Costa Rica and Venezuela. It is revealing to note in passing that these conclusions are equally relevant to nutrition monitoring in the Community-Based Nutrition Monitoring (CBNM) project, at state and national levels in the U.S, and in other developed countries.

### Information, Decision and Action: A Paradigm Shift

By the 1970's and 80's, sufficient experience had accumulated in the U.S. to indicate that the results of program and policy evaluations did not always lead to the kinds of decisions and program/policy changes suggested by the evaluations. This led to the recognition of the "utilization crisis" as revealed by the following quotes<sup>3)</sup>.

"Producing data is one thing; Getting it used is quite another"

"The recent literature is unanimous in announcing the general failure of evaluation to affect decision-making in a significant way"

"Evaluation research is meant for immediate and direct use in improving social programming. Yet a review of evaluation experience suggests that evaluation results have not exerted significant influence on program decisions"

The observations concerning the weak impact of evaluation results on decision-making in the U.S. forced a re-examination of the assumptions about the role of information in policy and program decisions, and the importance of considering the process by which, and context within which, the evaluation is conducted. This has led to the emergence of an alternative paradigm as described in the next section<sup>4)</sup>.

### Utilization-focused evaluation: A paradigm shift

The alternative paradigm for program evaluation has evolved most rapidly during the 1980's in the U. S. is now widely accepted within academic circles, and is being adopted with increasing frequency in the private sector (small and large corporations) and local government. The central feature of the alternative paradigm is captured by the following quote<sup>5)</sup>.

"There are five key variables that are absolutely critical to evaluation use people, people, people, people and people. The theoretical justification for this statement can be found in core concepts of several disciplines and processes, including the following:

- \*adult learning theory
- \*communication theory
- \*behavioral change theory
- \*decision-making theory
- \*organizational behavior
- \*management theory
- \*community organization
- \*policy formation processes
- \*coalition building

These disciplines contain a rich body of knowledge and theory through which one can describe and understand why people make the decisions they do, why they behave the way they do, and how information-related activities might be most effectively designed to change decisions and behavior. Just as the traditional concepts and skills of nutrition monitoring and surveillance could be characterized according to their distinguishing characteristics, so too can these disciplines. The key characteristics are the following:

- \*qualitative \*discussion-based
- \*user-centered \*theory-based
- \*participatory \*decision-oriented
- \*human-oriented \*appears unsystematic but can/should be systematic
- \*dialogue/interactive \*iterative \*requires training and skills

### Implications of the new approach for nutrition

The ways we think about nutrition problems and the causes of nutrition problems are a lot to do with the kinds of actions that we try to promote on the part of decision makers. If we think that protein energy malnutrition is due to a lack of food, then we would initiate supplementary feeding or income generating programs. In fact, however, the causes of nutrition problems are much more complex than this.

UNICEF reported that nutritionists or nutrition related professionals had a tendency to have certain assumptions or preconceived notions about what causes nutrition problems. Nutritionists seldom questioned the causes of nutrition problems, rather pick those up from what they had been trained or from popular notions. Nutritionists should be more scientific and question some of those notions because the causes of nutrition problems have multifactorial characteristics.

As an example, I would like to show you what we (the Cornell Cooperative Extension Service) have done in New York State. In community monitoring programs, childhood obesity was chosen as a significant nutrition problem by many communities. Approximately 30-40 % of primary school children living in upstate New York were overweight or obese. Nutritionists in New York State had collected data and made nice reports, but they were unclear what to do next. In order to deal with this problem, first, we tried to get nutrition professionals to be very clear on what they think the causes of one particular nutrition problem, childhood obesity. A chart identifying causes of childhood obesity (Fig. 1) was reviewed. It is important to find out underlying causes of a particular nutrition problem so that we can do something about it. Making conceptual framework for causes of any nutrition problem also has a big advantage at community level because generally local health professionals including nutritionists are knowledgeable about them. At national level, it becomes more difficult.

When the underlying causes of childhood obesity were understood, organizations or institutions that

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5) From Halcolm, cited in Patton MQ, 1986

have something to do with these causes were identified. Fig. 2 presents institutions and decision makers that influence food and social environments.

Traditionally nutritionists have worked with individuals and are not well trained to deal with psycho-behavioral issues. Ignoring food and social environments related to psycho-behavioral issues of nutrition problems is a problem since their impacts are significant in terms of improving nutrition.

General failure of evaluation results to decision making was related to a lack of understanding of decision-makers. Nutritionists are unable to make policy at national and state levels, thus they need to communicate with decision-makers and know them well. It is very important to understand decision-making individuals and structures in order to take actions.

In many cases of policy making, senior administrators or politicians already know what they want to do and what kind of decision they want to make. They seek information that can support their decision. Therefore, for nutrition professionals, it is im-

portant to understand decision-makers's agendas and link nutrition to those agenda. A relevant example is found in Indonesia.

Indonesia designed its five-year development plans within the broader framework of a 25-year long range development plan. The government recently decided that the overarching priorities for the next 25 years would be human resource development and poverty alleviation. An important strategic question for nutrition was how to "connect" nutrition concerns to these stated priorities of government. One way to accomplish this, taking the example of human resource development, was for the nutrition professionals in the country to synthesize existing knowledge of the relationship between early malnutrition and cognitive development. Some of the leading research in this area had been done in Indonesia, and the country had high rates of iron deficiency, iodine deficiency and protein-energy malnutrition that were relevant to this discussion. From a strategic perspective, it was important to link these problems to the educability of

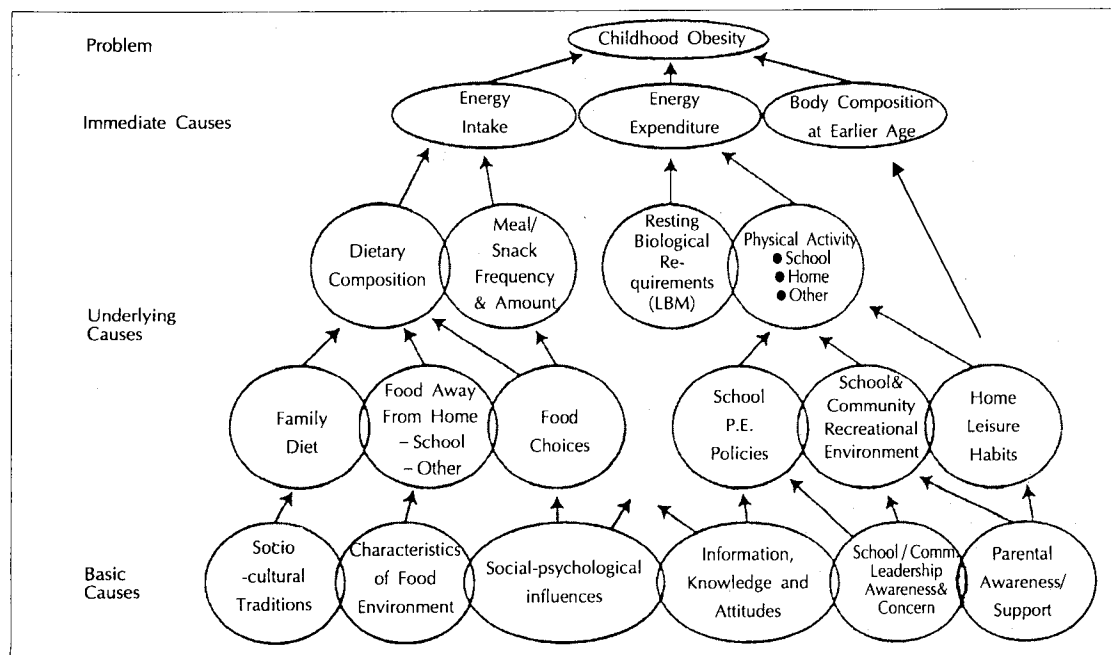
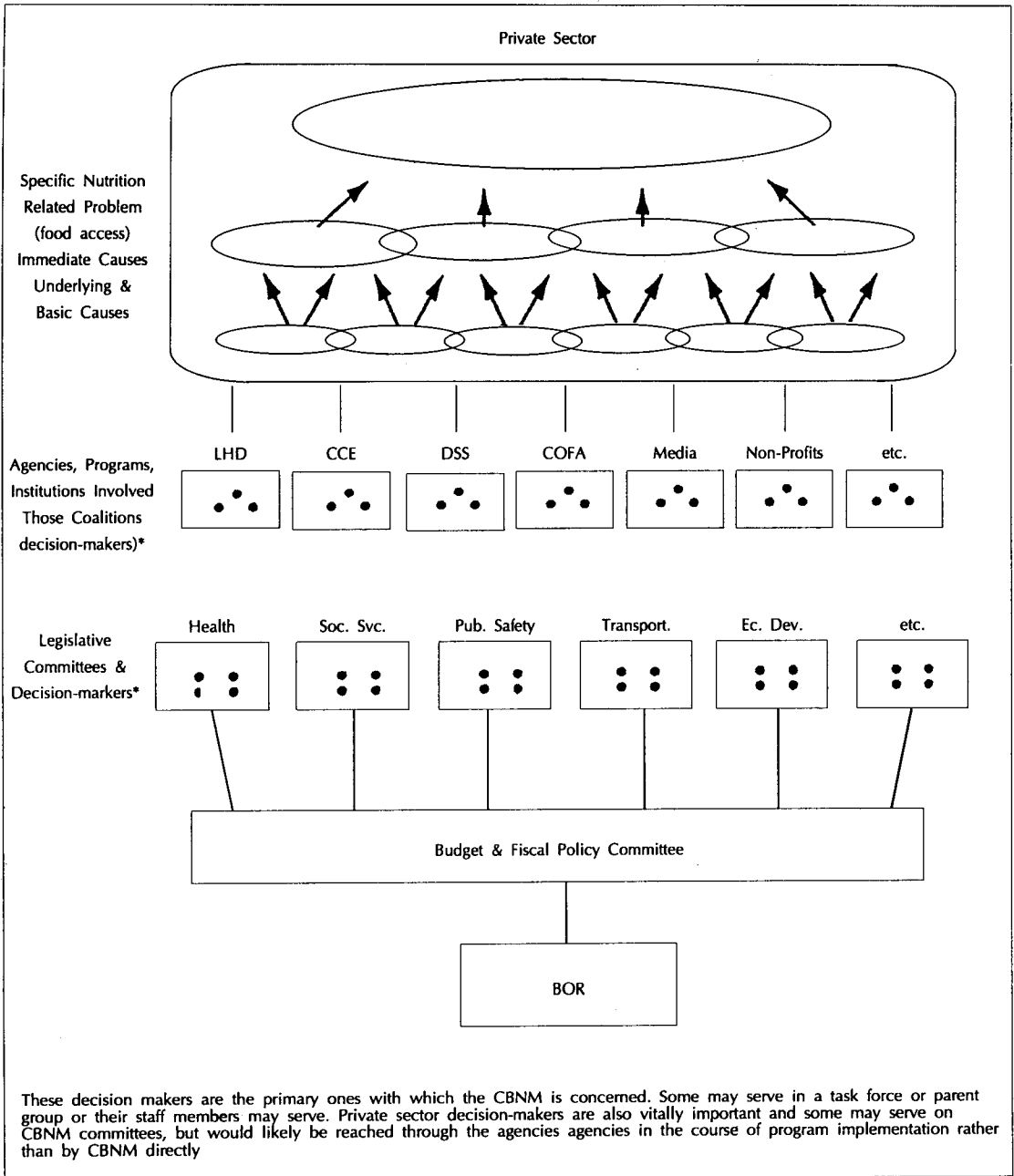


Fig. 1. Preliminary conceptual framework for causes of childhood obesity.

## Linking Information to Action



**Fig. 2.** Nutrition problems, causes, institutions and decision makers at community level.

Note : LHD=Local Health Department, CCE=Cornell Cooperative Extension, DSS=Department of Social Services, COFA=County Office for Aging, BOR=Board of Representatives

the population, returns to investments in the education sector, long-term impacts on economic development, and so on. Building on the example of po-

verty alleviation, it was possible to demonstrate to policy makers the forward link between poverty and malnutrition on the one hand, and the recursive link

**Table 1.** Services and protection objectives of the healthy people 2000 related to nutrition at community level

1. Comprehensive community nutrition plan\*
2. Comprehensive community nutrition education program\*
3. Availability of nutrition services for at-risk populations\*
4. Increase nutrition labelling of all foods\*
5. Increase number of processed foods that are reduced fat\*
6. Increase point-of-purchase nutrition information\*
7. Improve food choices in restaurants and other food services\*
8. Improve coverage of home-delivered meals for older adults
9. Increase nutrition education in schools\*
10. Increase nutrition education in worksites\*
11. Increase nutrition assessment and counselling in PHC\*
12. Increase nutrition services for those with specific diseases
13. Increase breastfeeding promotion programs\*
14. Improve hospital policies re. breastfeeding\*

between malnutrition, work capacity and economic productivity on the other.

The Indonesia case shows that the characteristics of nutrition problems, that is multisectoral causes of a nutrition problem, can be strength rather than weakness in terms of taking actions for improving nutrition. Nutrition can be linked almost to anything, thus, it is possible for nutrition related professionals to demonstrate the linkages to the decision-makers in various sectors.

### **Connections to Healthy People 2000 and Health Promotion in the U.S.**

In the U.S., the Surgeon General has recently released Healthy people 2000, developed by the U.S. Department of Health and Human Services. The initiative focus on health problems and goals. The services and protection objectives related to nutrition at community level are presented in Table 1. It is revealing to indicate that most of the activities listed in Table 1 require active involvement of local health department with multiple organizations in other sectors.

There was an evaluation of a health promotion project conducted in 10 communities in the U.S. The participants in the 10 health promotion projects were

asked to rank issues related to health promotion in terms of top priority. Number one priority was how to get community involvement and community support, followed by how to do effective promotion and outreach, funding and coalition building. These are related mainly to figure out how to work with other organizations in the community because health promotion people can not do health promotion alone.

**Table 2.** Conclusions from an evaluation of six community health promotion projects in Maine

1. Do community capacity assessment before needs assessment
2. Do not overrely on Behavioral Risk Factor Surveys
3. Analyze survey data rapidly for community use
4. Allow local flexibility in choosing priority health objectives
5. Provide technical assistance throughout, not just for surveys
6. Fund at least one full-time local coordinator
7. Provide extensive capacity building
8. Address only one chronic disease condition at a time, and mobilize multiple interventions against it
9. Emphasize institutionalization

Source : Goodman et al., 1992 Am J Health Prom 7(3) : 208-220

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Like nutritionists, health educators have to work with other organizations. The same kind of experience was found in the nutrition monitoring program in New York City which emphasized community organization aspects.

The evaluation of the six community health promotion projects in Maine State also indicates the similar problems as the above. These projects were Federally funded and further administered by the Center for Disease Control (CDC). The communities involved in this project received technical assistance from CDC. CDC helped the communities to do survey such as doing needs assessment, collecting and analyzing data and making report. Conclusions from the evaluation are presented in Table 2.

### Operationalizing the paradigm shift in the New York State Community Based Nutrition Monitoring (CBNM) Project

The Cornell Cooperative Extension Services (CCES) was set up for the home economics and agriculture extensions. CCES uses community organization and development approaches and has flexibility to work with other organizations. The Community Based Nutrition Monitoring (CBNM) was evolved from CCES. CBNM began as an effort to bring nutritionists from communities to talk about monitoring and collecting data on nutrition problems to sensitize decision-makers and communities. This requires that the supervisors of dietitians/nutritionist give permission for their staffs to go to some nutrition meetings, maybe two times a month. It is the only opportunity for the dietitians/nutritionists sitting in one room and talking about nutrition in a community in general rather than what they are doing in everyday job. Early years collecting data was focused. Now CCES is trying to get them to focus on decision making first and collect data when only if these are needed.

CBNM was conducted in 13 rural counties in New York State. One of the most significant problems of

**Table 3.** Current issues focused on by 13 counties participating in the Community-based nutrition monitoring project(6/93)

| Population Group                  | Nutrition Issue                 | # Counties |
|-----------------------------------|---------------------------------|------------|
| Prenatals & Infants               | Breastfeeding rates             | 4          |
|                                   | Breastfeeding support           | 1          |
| Preschoolers                      | Weight, height status           | 5          |
|                                   | Iron status                     | 4          |
|                                   | Diet                            | 2          |
|                                   | Food access                     | 1          |
| School-aged Children<br>and Teens | Weight status                   | 8          |
|                                   | Diet                            | 5          |
|                                   | Food access                     | 2          |
|                                   | T.V. viewing                    | 1          |
| Adults & Older<br>Adults          | Food access                     | 4          |
|                                   | Chronic disease risk<br>factors | 4          |
| Families/Whole<br>Population      | Food access                     | 3          |

the CBNM project was the difficulties linking data to action. Therefore, one year and half ago, greater emphasis was put on decision-making. The nutrition issues focusing on by 13 counties participating in the CBNM project are presented in Table 3. Many of the nutrition problems in Table 3 appeared to be chosen because data on the problems were most available (i.e. weight and height status of preschoolers and weight status of school-aged children and teens). These issues may not be the most significant nutrition problems to be chosen. When you choose a nutrition problem because you have data on it, there is a danger that you would miss the biggest nutrition problem.

CBNM is organized by parent and core groups, task force, and decision makers and other stakeholders (Fig. 3). Parent group includes people from the community who has either professional or personal nutrition interests in a community. Parent group forms nutrition council. People in core group are chosen by nutrition council and receive training and support from CCES. CCES provides the parent group some ideas regarding who might be the right persons for the core group. Parent group and core group form



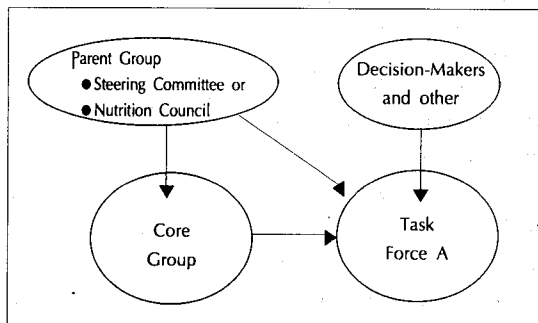


Fig. 3. Community Based Nutrition Monitoring organizational structures.

task forces (i.e. childhood obesity and breastfeeding task forces). For example, one of the communities formed 6 task forces with overlapping membership, while dealing with 6 different nutrition problems in the community simultaneously. The idea is that those in the core group act as facilitators. They receive training regarding how to facilitate group decision-makings and meetings effectively, and how to negotiate conflicts since some of the organizations in task forces may have competing agendas.

Decision-makers and institutions related to specific nutrition problem are invited to join the specific task force. Decision-makers analyze a nutrition problem with those from the parent and core groups who are mostly nutrition people. The purpose of this exercise is let the decision-makers understand the problem as the same way that nutrition related professionals understand. Nutrition people should allow decision-makers, to participate in and share their insights. By doing this, nutrition people and decision-makers learn together.

To be a bit more specific with respect to CBNM, it is useful to review its stated objective, The original objective as stated in the CBNM Manual is as follows:

"The regular, ongoing documentation of the current and changing state of nutrition in a community and factors that contribute to it, in order to support effective nutrition policy, planning and programming decisions by community leaders" (CBNM Manual, p. 1).

This implies that the regular, ongoing do-

documentation steps represent the main or sole method. In light of the considerations made in this paper, it is suggested that a more productive statement of objective would be:

"To support effective nutrition policy, planning and programming decisions by community leaders, by strengthening the ability of nutrition-related professionals<sup>6)</sup> to assess the nutrition problems of the community, analyze the causes and potential populations, and promote sound decisions by those who control the relevant authority and resources."

This version puts primary emphasis on supporting decisions, rather than on the documentation steps, and suggests the use of a more flexible type method for achieving this.

As indicated in Fig. 4, in building upon the model of nutrition monitoring, this statement of objective would imply significantly greater emphasis on the first four steps, reduced emphasis on the data-related steps,

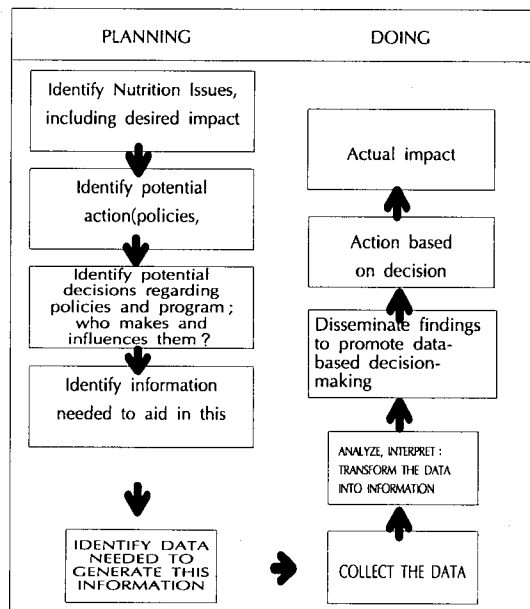


Fig. 4. New model of nutrition monitoring.

<sup>6)</sup> It has been pointed out that this might usefully be expanded to "professional and volunteers" to reflect the more diverse nature of the actors involved at community level.

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and significantly greater emphasis on the final three steps. Note that the de-emphasis of data-related steps is not meant to imply that data-based information is not important. Rather, it suggests that the need for data and specific type of data collected should be subordinated to the results coming from the first four steps in Fig. 4. Sometimes it may be possible to promote sound decisions with a much-reduced data collection effort, but this can only be determined after a systematic effort is made to complete the first four

steps.

In closing, I hope I have managed to convince you that implicit theory underlying nutrition surveillance and monitoring in the past has limitations that are now well-recognized, and that there exists a much body of theory and experience in related fields that can be productively brought to bear in your efforts to support nutrition-relevant decision making in your communities.