

# Evaluating organizational capacity in participatory research: the case of a Rootcrops Center in the Philippines

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*This paper reports on an evaluation of the process and outcomes of developing organizational capacity in participatory research, based on a case study of the Northern Philippines Rootcrops Research and Training Center (NPRCRTC). The study formed part of a broader research project on Evaluating Capacity Development (ECD) led by the International Service for National Agricultural Research (ISNAR). It aimed: 1) to analyze the processes and outcome of developing the Rootcrops Center's participatory research capacity; 2) to determine how its participatory research capacity has contributed to the performance of the Center as a research organization; 3) to examine how UPWARD has contributed to development of the Center's participatory research capacity; and 4) to formulate recommendations for improving capacity development efforts at the Center.*

*Based on a self-assessment methodology, the evaluation resulted in key findings in the following aspects: a) factors influencing capacity development, b) the Center's efforts in capacity development, c) UPWARD's contribution to the Center's capacity development, d) outcomes of capacity development efforts, e) process of transforming individual into organizational capacities, f) changes in organizational performance, and g) contribution to UPWARD outputs and outcomes. The paper concludes with key uses and benefits of the evaluation, as well as guidelines for future evaluation of capacity development efforts.*

## The setting

Rootcrops play a vital role in food security and income generation among poor farmers in the Philippines. Rootcrops – such as sweetpotato, cassava, potato, taro and yam – can grow in marginal areas, yield appreciably with few inputs or care, and offer great potential for commercial food and non-food uses. For many Filipino farmers and families, rootcrops guarantee a consistent supply of food and cash income.

Given their potential contribution to poverty alleviation efforts in the Philippines, rootcrops were identified as a major commodity research area in the early 1970s. In 1977 a Presidential Decree created a regional research center for the Northern Philippines, which is now called the Northern Philippines Rootcrops Research and Training Center (NPRCRTC or hereafter referred to as the Rootcrops Center).

The Rootcrops Center is mandated to spearhead research, training and extension on rootcrops in the highlands of Northern Philippines. It was established as an autonomous public-sector organization operationally attached to the Benguet State University (BSU). In the late 1980s, the Center began collaborative activities with various national and international organizations, including UPWARD.

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The Rootcrops Center-UPWARD partnership was formed primarily by their shared interest in rootcrops as a priority research focus, and on participatory research as a potential means to achieve target technological outputs and development outcomes. The 12-year partnership initially revolved around a research project on sweetpotato-based urban home gardens in Baguio City that was of interest and important concern to both, the Center and UPWARD.

Since 1991, the Center-UPWARD collaboration has evolved toward: 1) a shifting focus from home gardens to snackfood enterprise development; 2) a series of research activities extending from problem diagnosis to facilitation of local innovation processes; 3) building new alliances with other local organizations; and 4) forming various interdisciplinary teams in response to changing research tasks.

### **The capacity development effort**

In the early 1980s, the international agricultural research community recognized the need to develop and apply new research and development approaches - participatory research in particular - to the needs of marginalized farming groups. Since rootcrops are often associated with resource-poor farming households in the Philippines, the Rootcrops Center identified participatory research as a relevant and essential capacity for the successful implementation of its mission and objectives. It developed its capacity for participatory research through training of staff, the acquisition and use of publications and small grant-funded projects, which enabled the staff to learn by doing.

While it has a long history of partnership with the Rootcrops Center, the International Potato Center's (CIP) major intervention for developing participatory research capacities was formalized via UPWARD, a Network it promoted to encourage the use of participatory research. "Learning by doing" and "learning through sharing" are among the key features of UPWARD's networking strategy. The Center-UPWARD partnership, which was formally launched in 1990, was founded on a shared interest in rootcrops as a priority focus for research, and participatory research as a potential means to achieve the target outputs and development outcomes of rootcrop research.

Collaborative field projects formed a key UPWARD strategy for developing participatory research capacity among its partner organizations. Over the years, UPWARD has supported capacity development efforts at the Center through collaborative projects, trainings, information services and facilitating South-South and South-North expertise linkage.

### **The evaluation study**

#### *Objective*

The Rootcrops Center and UPWARD participated in a project on Evaluating Capacity Development, led by the International Service for National Agricultural Research (ISNAR), primarily because of their common interest to evaluate and learn from their 12-year partnership.<sup>3</sup> With declining levels of funding and a need to redefine its niche

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within the country's broader rootcrops research system by maintaining its relevance and contribution to agricultural development in the Philippines, the Center also intended to use this evaluation to contribute to its internal review and planning processes. For its part, UPWARD saw the need to systematically review how its decade-long capacity development efforts have contributed to organizational development of its partner organizations (Figure 1).

The joint evaluation aimed to:

1. analyze the processes and outcome of developing the Rootcrops Center's participatory research capacity
2. determine how its participatory research capacity has contributed to the effective performance of the Center as a research organization
3. examine how UPWARD has contributed to the development of the Center's participatory research capacity and
4. formulate a recommendation for improving capacity development efforts at the Center.

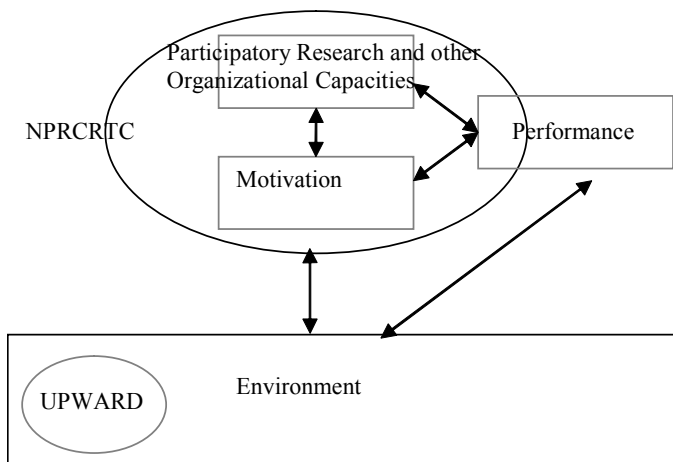


Figure 1. Theory of action guiding the evaluation.

The evaluation primarily used a self-assessment methodology (Table 1) with Center staff and stakeholders to design the evaluation, collect data, and analyze findings. The evaluation involved several phases which included secondary data collection; a planning workshop to discuss concepts, practices and issues in capacity development and the ECD project; key informant interviews; a summative workshop to present and analyze with Center staff the data collected in the previous phases from which conclusions were drawn and limitations of the evaluation were identified; a synthesis and drafting of the evaluation report; and sharing and finalizing the report through workshops involving evaluation stakeholders.

On the whole, the evaluation chose to cover only human capabilities and to exclude organizational resources. The evaluation team faced major constraints in data collection because of the lack of monitoring records and the difficulty of contacting key informants for the period being covered by the study. In addition, the evaluation was conducted simultaneously with an external financial audit of the Rootcrops Center. This unwittingly affected stakeholders' perceptions on the purpose and use of the evaluation.

Table 1. Self-assessment methods used in evaluation workshops.

Method	Data Collection Task
Brainstorming through cards sorting	Defining concepts
Retrospective analysis through personal narratives	Historical review
Matrix ranking to assign relative values to a set of criteria/items	Assessing degrees of organizational capacity and performance
Diagramming, drawing and mapping	Analyzing organizational structure and external linkages
Case analysis for individual/group reflection of key issues	Examining actions, outcomes and factors affecting capacity development
Small-group discussion and plenary presentation	Drawing conclusions and recommendations

#### 4. The evaluation findings<sup>4</sup>

The evaluation identified environmental and motivational factors influencing capacity development and performance, examined the processes of developing participatory research capacity at the Center, and assessed the contributions of partner organizations to capacity development for participatory research.

##### *Factors influencing capacity development*

Environmental factors – such as the policy and funding environment, organizational autonomy, and natural disasters – and motivational factors – such as organizational change and reorganization, staff homogeneity, external recognition – influenced both positively and negatively the Center’s capacity development and performance in participatory research (Table 2). The research it conducted on home gardens, for instance, helped the Center contribute significantly to the public and private sector’s response to food shortages in Baguio City as a result of a 1991 earthquake.

##### *The Rootcrops Center’s efforts in capacity development*

The study concluded that training, information support, mentoring and small-grant projects all made a contributions to the Center’s overall strategy for capacity development (Box 1). No particular mechanism, however, was identified as effective on its own. Though the partnership between the Rootcrops Center and UPWARD was specific to participatory research, the study concluded that it was crucial for the partner organizations to understand how a subset capacity relates to and creates synergy with other technical, facilitative and strategic management capacities of the organization. Designing an appropriate mix of mechanisms over time and space is one of the fundamental challenges facing the organization.

<sup>4</sup> For detailed discussion of evaluation findings, see Horton, D., N. Alexaki, S. Benett-Lartey, D. Campilan, F. Carden, J. De Souza Silva, L. Thanh Doung, I. Kadar, A. Maestrey Boza, I. Kayes Muniruzzaman, J. Perez, M. Somarriba Chang, R. Vernooy and J. Watts. 2003. *Evaluating Capacity Development: Experiences from Research and Development Organizations Around the World*. The Hague, The Netherlands: ISNAR. 165pp.

Table 2. Environmental and motivational factors for capacity development.

Influence	Environmental Factors	Motivational Factors
<b>Positive</b>	<p>NPRCRTC operational guidelines recommend interdisciplinary, multi-agency approach in research</p> <p>AFMA stipulates that agricultural research be made responsive to the needs of users</p> <p>PD1107 provides authority for NPRCRTC to establish external linkages</p> <p>BAR officially considers rootcrops as priority commodity research area</p> <p>Natural disasters re-affirm the importance of rootcrops as buffer crops</p>	<p>BSU staff provided workload points for their involvement in NPRCRTC activities</p> <p>NPRCRTC received awards for its participatory research activities</p> <p>Informal feedback from partner organizations and local user groups emphasize the significant impact of NPRCRTC's research activities</p> <p>NPRCRTC staff have close inter-personal relationships through many years of work at the Center</p> <p>Opportunities for advanced studies/training encourage staff to improve their capacities</p>
<b>Negative</b>	<p>Funding support from government and donor organizations has sharply declined</p> <p>National government terminated special budget allocations to NPRCRTC</p> <p>Competition over research mandates and resources between NPRCRTC and other organizations</p>	<p>Misunderstanding over task assignments affects working relationship of staff</p> <p>Low staff turnover reduces opportunities to infuse NPRCRTC with new capacities</p>

**Box 1. Key efforts in capacity development.**

*Trainings:* Capacity development efforts through trainings included degree and non-degree trainings, seminar-workshops, conferences and meetings attended by staff. During the earlier years of the Center, trainings attended by staff primarily dealt with technical subject matter (i.e. broad topics on agriculture and specific topics on rootcrops) and general research methods. However during the 1990s, attendance in trainings on participatory research was most frequent and involved several staff. For example in 1991, 13 staff underwent training on participatory problem diagnosis and needs assessment. In addition, all of the staff participated in a 1998 workshop on participatory research methods.

*Publications:* The inventory of titles of publications acquired by the staff from 1990-2000 indicated that the majority dealt with technical subject matter, both on general agriculture (34%) and specifically on rootcrops (36%). Publications on rootcrops mainly focused on crop improvement, seed production, pest and disease control, and postharvest and utilization. About one-fourth of publications focused on participatory research. These included: case studies on the use of participatory approaches in agricultural research, manuals on participatory research methods, newsletters containing articles on completed and on-going participatory research projects, and volumes of papers on issues and challenges in participatory research.

*Field research:* While project grants were mainly intended for implementation of research activities, the staff also considered these as mechanisms for enabling staff to learn by doing, i.e. developing capacity through hands-on experience. It was during the 1990s that the Center obtained significant external financial support for research projects involving the use of participatory methods. Besides the core funding from BSU, the Center expanded its collaboration with CIP by initiating a project on strengthening informal seed systems for potato, together with the collaborative project with UPWARD on sweetpotato gardens.

### *UPWARD's contribution to capacity development*

UPWARD was identified as the main external institution supporting the Center's efforts for developing participatory research capacity. Mentoring was UPWARD's primary means for capacity development support. This occurred through informal visits and consultation meetings with senior UPWARD network members and staff from the UPWARD coordinating office. Up to half of UPWARD's investment in the Center's capacity development was spent on training and mentoring activities and one third on project grants (Table 3). This suggests that the Center--UPWARD collaboration was grounded on a diverse portfolio of joint efforts for capacity development and research implementation.

Table 3. Estimated UPWARD investments in the Center's capacity development for participatory research.\*

Phases	Project Funds	Trngs/ Workshops	Conferences	Publications	Informal Visits/Mtgs	Total Amount
1990-91	2000	5367	3280	435	1200	12282
1992-93	3930	4000	—	195	1000	9127
1993-94	6736	—	850	110	1500	9196
1995-97	5107	6659	1769	875	4014	18424
1998-99	4695	5784	873	580	2659	14591
1999-2000	10200	1029	960	100	4121	16410
<i>Total</i>	<i>32660</i>	<i>22839</i>	<i>7732</i>	<i>2295</i>	<i>14494</i>	<i>80030</i>
<i>Percent</i>	<i>41</i>	<i>28</i>	<i>10</i>	<i>3</i>	<i>18</i>	<i>100</i>

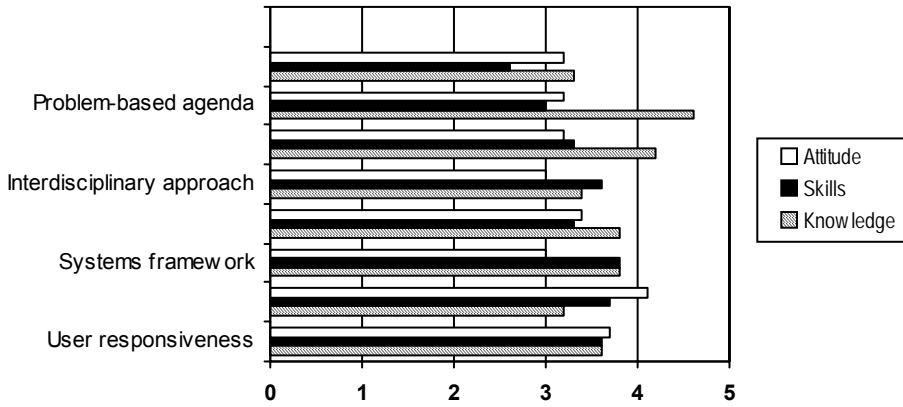
\*Based on financial records at the UPWARD Coordinating Office

### *Outcomes of capacity development efforts*

A wider evaluation of changes in participatory research capacity through self-assessment showed that a variety of types of capacities were developed spanning the entire process of research planning and implementation, and extending beyond the research realm by enabling the Center's staff to teach university courses and organize trainings. The self-assessment showed that the highest level of improvement was made in defining a research agenda based on stakeholder needs and problems. This is significant considering that the dominant practice among agricultural researchers has been to undertake research without ensuring its relevance to the priority problems of users such as individuals, households, or communities. Meanwhile, the lowest level of capacity improvement was in the skills acquired for undertaking fieldwork. This finding underscores the need to focus more attention on developing capacities for field-based research especially among researchers who have been primarily involved in on-station work (Figure 2).

### *From the individual to the project level*

The evaluation also examined two levels of the Center's organizational capacity – the project and institutional levels. The degree to which individual capacities were successfully transformed into project level capacities was demonstrated through sustaining project implementation even as project leadership changed, expanding team membership, and receiving awards that recognized project-level performance.



Source: Basilio and Bagalanon (1999)

Figure 2. Changes in participatory research knowledge, attitude and skills based on self-assessment by UPWARD network members in the Philippines (n=18).

Meanwhile, the degree to which individual and project-level capacities contributed to organizational-level capacities for participatory research was demonstrated through: using participatory methods in Center –UPWARD collaborative project or other projects undertaken by the Center; expanding co-ownership of the project among the various program divisions of the Center; and producing project-based publications and documents that have become part of the Center’s collection of information resources on participatory research.

*Changes in organizational performance*

The evaluation of the Center-UPWARD collaborative project showed that improvement in participatory research performance was shown through the team’s successful implementation of new participatory research activities. Positive changes in organizational performance were also seen as the project carried out its planned activities, produced the corresponding outputs, and worked toward the accomplishment of desired outcomes. The longer-term organizational performance of the project was also evaluated in terms of the effectiveness, efficiency, relevance and sustainability of project processes and results (Table 4). The study concluded that throughout project implementation, the team continuously learned to improve its participatory research performance.

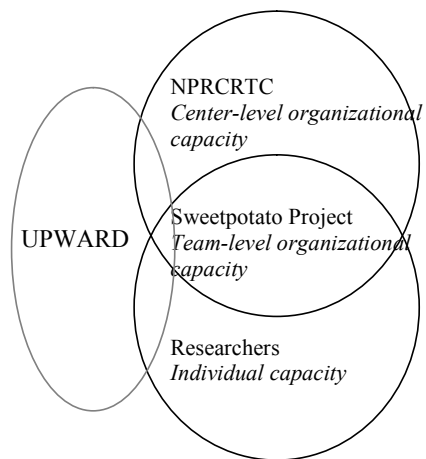


Figure 3. Linking individual, group and organizational capacities.

Table 4. Long-term organizational performance of the project.

Criteria	Indicators	Key Findings
Effectiveness	Range of sweetpotato products developed	Seven snackfood products: fruit-flavored sweetpotato candies (4 types), cambuko, sweetpotato chips, sweetpotato sticks, sweetpotato mash, sweetpotato bread, and other bakery products (buns, cookies and doughnut).
	Availability of the products	Three of 7 products (sweetpotato candies, bread and bakery products) are available from local processing groups on a per-order basis
	Acceptability of the products	Consumer testing indicated moderate to high product acceptability: candy (64%), buns (87%), cookies (80%), doughnut (58%),
	Changes in income of households (farmers, traders, processors, retailers, etc.	Income from snackfood processing contributed less than 10% of total household income. However, contribution to individual housewives' income was as high as 100% for those having no other means of income-earning activity. Meanwhile, sweetpotato production contributed 19% of total income for farming households.
Efficiency	Delegation or allocation of tasks to those best qualified Making use of relevant secondary data and of previous research outputs	Project tasks were assigned to researchers with the relevant expertise (production, varietal evaluation, processing, and marketing)  Product development built on results of NPRCRTC's previous postharvest and utilization research, and on local knowledge on traditional snackfood products
	Relevance	Number of groups and households engaged in sweetpotato snack food processing  Appropriateness of technologies to local resource situation
Sustainability	Development of skills of local communities	Two of three pilot groups continued to be engaged in seasonal snackfood processing, including 6 household-level enterprises.  Snackfood processing technologies were simplified to make use of basic kitchen gadgets and other common household equipment.
	Local investment for enterprise development and project follow-up	Skills learned from project that processing groups considered as of longer-term use to them: doing cost-and-return analysis, and experimentation to develop and improve snackfood products  Financial grant from local government units provided initial capitalization for enterprises

*Contribution to UPWARD outputs and outcomes*

The evaluation revealed that the collaborative project yielded key outputs and outcomes not only for the Center but also for UPWARD (Table 5). The field-based experiences of the project contributed to UPWARD's broader programmatic agenda by furthering its body of knowledge on concepts and practices in participatory research; by contributing to the planning and implementation of CIP's rootcrop research agenda; and by influencing the development of participatory research capacity for other UPWARD members.

The Center-UPWARD partnership highlighted the two-way nature of capacity development. Conventional thinking would view the Center and UPWARD as recipient and service provider, respectively. However, it was clear from the evaluation that

Table 5. Outputs and outcomes for UPWARD.

Contributions	Outputs	Outcomes
Development of participatory research approach	Field-tested concepts and methods for participatory research	Program framework for participatory R&D
Research planning and implementation	Findings from research on urban agriculture and sweetpotato utilization	Agenda for CIP research programs on urban agriculture and sweetpotato and utilization
Capacity development for participatory research	Identification of training needs and opportunities	International course of participatory research and development, various short training/workshop activities

UPWARD gained as much as the Center from the partnership. All this points to the need to rethink the popular notion of partnership as a patron-client relationship.

### Uses and benefits of the evaluation

Evaluating capacity development in organizations is like shooting a moving target. Organizations continue to change even as they are being evaluated. Just prior to and since the completion of this evaluation in November 2001, there have been major developments in both the Center and UPWARD that affected the outcomes and utility of the evaluation.

#### *Rootcrops Center*

During 2001, there was a change in leadership at the Center. As mentioned in the evaluation, historically a new Center Directorship signals major changes in the overall priorities and strategies of the Center. Articulating one's leadership vision and communicating this to stakeholders will be a first major challenge for the new Director. Meanwhile, it is too early to predict how the findings, conclusions and recommendations of this evaluation will affect and be affected by this.

One positive step that has recently been taken by the new Director, and with support from the BSU administration, is the planning of a follow-up evaluation that will examine the overall capacity and performance of the Center. A proposal for the evaluation has been drafted and circulated for comments both internally and externally.

For its part, the BSU administration has positively responded to this study by re-affirming its stake in the process and outcomes of the evaluation. In response to the suggestion by the Administration to share the evaluation more widely, the team has organized a series of seminars and workshops aimed at various constituents of the University. This was also a strategic step for the team to clarify the nature and purpose of the evaluation, in light of various interpretations on the agenda behind the conduct of the evaluation.

In recognition of the potential and actual contributions of the evaluation to organizational development of the Center, both ISNAR and UPWARD were given awards of distinction for the partnership with the Rootcrops Center, during the Center's 25th Founding Anniversary celebration in early 2002. In addition, BSU awarded UPWARD with a plaque of recognition as one of the outstanding partners of the University, during BSU's own Founding Anniversary celebration also in early 2002.

## UPWARD

Parallel evaluations have been carried out with other partners of UPWARD, drawing from the initial experience of the evaluation with the Rootcrops Center. This included a monitoring study, conducted in 2001, on the outcomes of a training-of-trainers for farmer field schools within a network of NGOs in Indonesia. Another evaluation was conducted in Nepal in early 2002 to evaluate the contribution of an UPWARD-Department of Agriculture collaborative project to developing the participatory research and extension capacity of district-level agricultural extensionists and farmer-leaders. It also contributed to the design and implementation of an ethnographic study on the development of participatory research capacity at CIP.

Findings from this study, especially on new training needs identified by Center staff, served as input to the development and design of an UPWARD International Course on Participatory Research and Development. Lessons and insights from the 12-year partnership with the Center served as case materials for sessions dealing with issues in institutionalization and scaling up. The course has been conducted twice since 2001, with a total of over 60 participants from 20 countries in Asia, Africa and Latin America.

### **Guidelines for future evaluations of capacity development efforts**

Some key guidelines have emerged from the evaluation that could be useful to those seeking to do evaluation of capacity development. These include the following:

1. Evaluating capacity development inevitably involves collecting sensitive information that can only take place in an atmosphere of transparency and objectivity.
2. Capacity development is a complex area that people in the organization need to reflect on and talk to each other about.
3. It is important that everybody gain consensus on what we mean when we say “capacity development”.
4. It is important to have common, useful, visual and conceptual frameworks to refer to when we talk about complex notions such as “organizational performance” and “organizational capacity”.
5. It is important for all participants to talk in concrete terms (our organization, our mandate and mission, our projects, our management systems, our personnel) and not in abstractions. Using a case project (i.e. sweetpotato enterprise development) helped in providing concrete examples and indicators in order to ground discussions and exercises.
6. Reflecting on an organization’s capacity development is a complex exercise. It requires an iterative process, i.e. doing things several times before they become clear and before being able to sort out the more useful examples and indicators from the less useful.

7. Systematic record keeping is important in proceeding with a capacity development project. Good ideas and important details get lost if these are not systematically recorded.
8. Keeping a written record of attempts to come to grips with organizational development is valuable.

### **Reference**

Basilio, C. and C. Bagalanon. 1999. Network members' perspectives on users' perspectives. *In: Learning to Manage Livelihoods, New Perspectives in Rootcrop R&D*. CIP-UPWARD, Los Baños, Laguna, Philippines. 195-210.