

Developing Cross Sectoral, Healthy Public Policies: A Case Study of the Reduction of Highly Toxic Pesticide Use among Small Farmers in Ecuador

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The Context for Developing Public Policies

The development of healthy public policies has been on the health sector's agenda for some years, particularly since the Alma-Ata Declaration (1978) and, more recently, with the concept of incorporating health in all public policies.¹

A series of approaches to the implementation of public health projects has been promoted by international research and development agencies. As an example, the International Development Research Centre (IDRC) and its *Ecohealth* program promote a comprehensive approach to environmental health problems which takes into account the relationship between the biophysical, social, and economic environments.² Implementing such approaches involves promotion of cross-sectoral, interdisciplinary work skills.³⁻⁵ These enable action on various aspects of the ecosystem affecting a particular health problem and culminate in the creation of healthy public policies. Improving health is thus recognized as a shared responsibility, requiring the development of public policies in sectors other than the traditional health care system.^{3,4,6,7}

In practice, however, the development of healthy (cross-sectoral) public policies is challenging; health must be seen as a social product, influenced by a series of intermediate structural determinants^{4,8} whose reproduction is steeped in conflicts of interest, power, and understanding.⁹ Such conflicts

are inherent to policy development, a social process in which decisions are made not by individuals as representatives of institutions, but by the state. The state is understood as an arena within which social actors inter-relate. The creation of a new public policy (act, law, regulation, decree) results not simply from the isolated decision of a policy-making authority; instead it is the product of discussion among a series of social actors, individuals, or organizations who have the capacity to introduce subjects for debate on the state's agenda.¹⁰

The concept of the State as a social space for decision-making allows us to understand that—within the complex process of policy development—various factors will condition and facilitate a desired outcome.⁴ Among the conditioning factors are those related to the presence or absence of citizenship as expressed in the empowerment of the individual to become a subject with proactive capacity and the organization of people in groups to tackle problems. The facilitating factors include those inherent to the institutional nature of public institutions and authorities which determines their structural capacity to respond in terms of achieving health, well-being, and quality of life of the population. These capacities are put into practice through *political will*, an intellectual and critical approach to social issues which sees the population as subjects within the political process and not simply as objects of policy.^{6,9,10}

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Goals of this Case Study

Given the dearth of studies and documentation on the development of healthy policies in medium and low income countries¹¹⁻¹⁵ we undertook this case study in order to:

1. To describe a real-world project which developed cross-sectoral public policies on health and agriculture at the municipal level, specifi-

- cally strategies to reduce the health effects of pesticides on small-scale farmers; and
2. To use the data from this case study to examine the relationship between the development of cross-sectoral policies and the social determination of health, specifically how sustainable agricultural development* and modes of production function as determinants of farmers' health.^{8, 16}

This study is part of a more extensive research project called Ecosalud II¹⁷ which was undertaken by the International Potato Center in Ecuador from December 2005 through May 2008. The larger study was designed to reduce the health impact on small-scale farmers and their families of highly toxic pesticides using a multi-sectoral approach.¹⁸

Social Determination of the Problem

Small-scale farming is one of the main economic activities of the rural population of Latin America and involves over 60 million people in the production of staple foods.¹⁹ By contrast, national agricultural development policies have largely focused on promoting better business conditions for agribusiness¹⁹ as a way of accelerating the production of capital in a globalized economy.²⁰ The development of sustainable rural farming—both in terms of the environment and workforce—has been neglected; this neglect extends to addressing the crop management choices among family farmers.²¹

As a result, rural family farming has evolved into a subsistence economy in which most of the harvest is consumed within the household and labor is largely unsalaried since most of the work is done by family members. Under such conditions farmers are particularly prone to rural poverty.¹⁹ In Ecuador, for example, 85% of the rural population is classified as poor based on the index of unsatisfied basic needs. Within this group 53.6% live in conditions of extreme poverty.²²

These socio-economic determinants ultimately dictate the mode of production for this type of farmer: what information is available for making decisions, what resources are available to the farmer and how those resources are used.^{18, 21, 23, 24}

Small farmers mainly use pesticides classified as moderately, highly, or extremely toxic by the

WHO²⁵ (types Ia, Ib, and II respectively). These are primarily organophosphates and carbamates with proven neurotoxic effects. They are used because they are relatively cheap when compared to other less toxic pesticides.^{24, 26} However, seventy percent of farmers do not know the degree of toxicity of the products they use, nor do they have information about less toxic alternatives for managing their crops. The level of information—particularly on the dangers and health effects of the pesticides used—was found to be inversely proportional to a farmer's ability to read and write.²⁴ The lack of farming outreach programs, particularly those offered by government entities, is one of the reasons behind the paucity of farmers' knowledge on alternatives to the use of pesticides.²⁴

The workload associated with small farming²⁷ (see above) results in chronic ill health. This has been documented by several authors,²⁸⁻³² impacts upon their productivity,³³ and is part of the social costs of pesticide use.³⁴ Cole et al³⁵, for example, found that two thirds of the farming population in an agricultural area of Ecuador showed levels of neuro-cognitive deterioration equivalent to what would be considered a moderate level of disability in high-income countries.

On the other hand, in recent decades local governments—including municipalities—have become more involved in promoting economic development within their own jurisdictions; these efforts have even been institutionalized into their strategic planning. The activity of these local authorities in setting norms for the development of sustainable rural farming has, however, faced two fundamental limitations: 1) lack of decision-making power despite decentralization policies,³⁶ and 2) although farmers have greater access to local government, their low level of political involvement and organization has kept them from demanding conditions which would improve their well-being.^{24, 36}

We believe that understanding the State at the local level as a decision-making social space¹⁰ creates possibilities to develop sustainable agricultural policies which integrate health promotion with a social determinants perspective. This moves the discourse away from the victimization of the individuals and replaces it with the promotion and creation of social, economic and physical environments supportive of positive changes in the way small farmers produce.^{7, 11, 12, 37, 38, 39}

Methods

Context

The study was carried out between September 2006 and April 2007 in three municipalities located

* Sustainable rural agricultural development is understood to be respectful towards the environment, economically viable, socially just, culturally appropriate, humane, and based on a holistic scientific approach. The development and application of sustainable rural agriculture involves several sectors; it is not just agricultural policy but also health and biodiversity policies.¹⁶

in three cantons of the Andean region of Ecuador: Quero in the province of Tungurahua, and Guamote and Guano in the province of Chimborazo.[†] In all three municipalities agriculture is one of the main economic activities; farming is the main source of income for 87%, 80% and 59% of the population of these cantons respectively. Agriculture is in the hands of small farmers who engage in family farming.⁴⁰ Table 1 provides details on some features of the municipalities involved in the study.

Community selection and research design

Municipalities were selected for the study if their jurisdiction included at least three rural communities actively involved in the Ecosalud II Project.^{17,18} The study was implemented through operative research, and policy-making was conceptualized as a process involving four stages.^{39,41,42} (Figure 1):

1. *Proposal for a political agenda to consider health as a social product.*^{6,10} The goal of this stage was to integrate various actors sharing a common interest. Initially, each municipality was given a presentation on the results of a cross-sectional study of the risk factors and health effects associated with pesticide use in exposed farmers.¹⁸ The presentations took place at meetings of the Municipal Council; this allowed the information to reach both institutional actors[‡] (represented by the policy-makers, technicians, and administrative personnel of the municipal councils) as well as community actors[§] (the formal and informal leaders of the

farmers). The presentations were based on previous research undertaken in a similar population in northern Ecuador.⁴⁴ The information was presented in such a way as to highlight what actions policy-makers could take to address the problems identified.¹¹ For example, attention was drawn to the potential social and economic loss for the canton resulting from reduced productivity due to health effects of chronic exposure to the pesticides.

2. *Political analysis* – The goal of this stage was to reach agreement on a regulatory framework that could be implemented in the geographic area of the study and would avoid potential conflicts with existing regulations. This involved two sub-stages:

2a. In-depth interviews with the actors mentioned above in order to gather information about their perception of and interest in the problem as well as the feasibility of establishing a regulatory framework at the municipal level to reduce farmers' exposure to pesticides; and

2b. A review of secondary sources and current regulatory frameworks (whether mandated or voluntary) at national, regional, and municipal levels, particularly those affecting the responsibility of various agencies and government bodies concerning the use and handling of pesticides in farming

[‡]The term “institutional actor” refers here to those public officials who are subject to institutional regulations and norms. In this section we do not use the term to differentiate between the different social levels associated with our subjects' organizational status (see Testa 2005).

[§] The term “community actor” refers here to population groups who come together around a common interest (see Testa 2005).

[†]“Municipality” is used here to refer to the administrative authority of a territorial jurisdiction called a “*municipio*” or “*canton*.”

Figure 1

Four stages in the development of cross-sectoral public policies

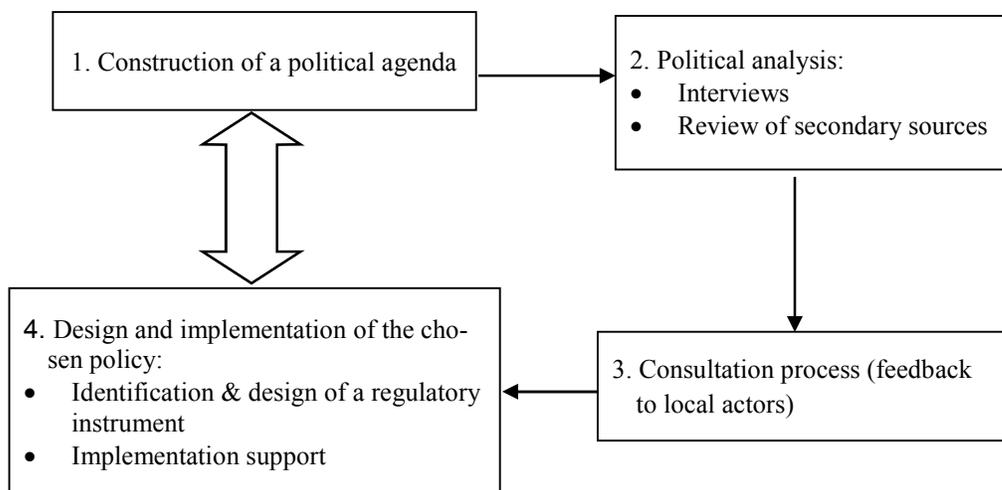


Table 1 Description of the municipalities involved in the study						
Municipality	Total population (% rural) ^a	Total budget 2007 (USD 2008) ^b	Percentage of budget invested in social programs	Municipality's interest in promoting agricultural development	Social participation structures existing in the municipality	Promotion of social organization by the Municipality
Quero	20,273 (86%)	3,995,413	4.8% 89% of this is spent on health services ^c & 11% on farming.	High The organizational structure includes a Department of Social and Agricultural Development.	Autonomous farmers' organizations are actively involved in municipal planning and management. This is coordinated through the Quero Potato Producers' Consortium (CONPAPA Quero).	Municipality promotes establishment of farmers' organizations and has formal links with them.
Guano	41,123 (78%)	7,338,280	56% is spent on infrastructure (water, environmental sanitation, health services) 1% on farming	Medium There is no specific structure to promote agricultural development	Farmers' organizations with no links to the municipality, but linked with each other through the Chimborazo Potato Producers' Consortium (CONPAPA Chimborazo).	None; however, farmers' organizations are interested in links with the municipality.
Guamote	28,212 (93%)	Data unavailable	Data unavailable	High There is an organized farming discussion committee as part of the municipal organizational structure.	Farming discussion committee mediates relations between farmers' organizations and the municipality.	Farmers' organizations \partly linked with the municipality

^a Source SIISE 2008

^b Information available from the Law of Transparency and Social Control⁶⁴

^c Investment in health is supported by the Ministry of Public Health's health centers. However, no health center responsibilities have been formally decentralized to the municipal level through written agreements or resource transfers.

activities and in matters of agricultural development and the environment in general.

3. *Consultation process:* This consisted of providing feedback on the results of Stage 2 to the institutional and community actors who took part in the earlier stages. The goal was to explore possible points of entry and strategies for formulating a local policy to reduce the health effects of pesticide use on small farmers. This was communicated in a second session of the Municipal Council previously scheduled with the actors.

4. *Policy design and implementation:* This stage included two sub-stages:

4a. Working with municipalities to identify and design a regulatory mechanism through which they could formulate and implement the policy and/or program identified in the previous stage based on the administrative areas under their influence; and

4b. Support for the implementation of the policy or program identified in the previous step. In two of the three municipalities concerned civil society groups were interested of the new initiative and provided their support. These included non-government organizations (NGOs) and producers' organizations such as the Potato Producers' Consortium of Chimborazo and Quero (CONPAPA).

Limitations related to financing and duration of the Ecosalud II Project precluded undertaking an evaluation stage. However, the research team undertook an informal follow-up study of the impact of these policies the year after its implementation.

Information Sources

In-depth interviews

In-depth interviews using open-ended questions were held with 41 individuals. These included policy-makers (3 mayors and 12 councilors, 4 in each municipality), operational technical personnel in charge of development and agriculture (1 per canton), and the municipal attorney overseeing local regulations (bylaws) in each of the municipalities. Twenty formal and informal community leaders who had taken part in the Ecosalud II Project¹⁸ were also interviewed. Only two of the interviewees were women.

Personal meetings were held with institutional actors to review the research process and arrange interview dates. Community leaders were contacted by telephone in order to arrange interviews in their communities.

The subjects covered during the interviews were drawn from the criteria for drafting policies proposed by Milio¹² (see Box).

Subject covered in interviews with institutional and community actors (Source: Developed by the authors)

1. Openness to and feasibility of formulating a policy and/or program. This was assessed through the following:
 - a. Understanding of and importance given to the problem;
 - b. Political costs and perception of acceptability to the population (considering both those who would benefit and those who would be opposed);
 - c. Perception of political benefit;
 - d. Existing institutional programs as vehicles for putting the policy into effect;
 - e. Institutional capacity (material resources, human resources, financial resources, training);
 - f. Expected and unexpected outcomes following implementation;
 - g. Institutional support required for implementation;
 - h. Outlook for sustainability of the policy after the current political term.
2. Type of tool which could be used to implement a potential policy.

Before being interviewed, individuals provided their verbal consent to taking part in the research and being recorded. Confidentiality and, where possible, the anonymity of the information were assured. The interviewer was a trained final-year law student from a regional university close to the municipalities under study. Two months before going into the field, the student underwent training on the health effects of pesticide use by small farmers and took part in multi-sectoral meetings on health and agriculture and the various activities of the Ecosalud II Project.⁵

All interviewees were invited to the feedback meeting.

Review of existing regulatory frameworks

Several regulatory instruments at the supranational⁴⁵⁻⁴⁸ and national⁴⁹⁻⁵³ levels were reviewed in relation to existing legislation and voluntary standards on use and handling of pesticides. Existing regulatory frameworks in each of the municipalities were reviewed to identify and define administrative areas of responsibility and institutional technical capacities for the implementation of potential policies and/or programs.

Field notes

In Stages 3 and 4 of the research multiple meetings were held with institutional actors. During these meetings field notes were taken on the following subjects: interest in and practical commitment to development of a pesticide policy, social context,

and institutional climate. All notes were jointly reviewed by the first author (FOT) and the law student immediately after each session in order to share interpretations and ensure their reliability and utility for subsequent analysis.

Analysis

The interviews were transcribed in Word, and later transferred to an Excel spreadsheet. The spreadsheet was used to group data into matrices by type of actor (institutional or community) in each municipality. Content analysis was applied to these matrices.^{54,55} Information was organized by themes covered in the interviews. Inductive analysis allowed us to identify sensitive concepts to aid interpretation. These were sorted by frequency with which they were mentioned and classified as being of high, medium, or low importance according to the level of importance attached to them by the actors. Coding was done at the same time by the first author and the law student. The information in the field notes served as supporting material for the analysis and interpretation of results.

Secondary source materials were organized by the main themes which emerged during the review of regulatory frameworks: pesticide marketing; registration and control of pesticides for agricultural use; post-registration surveillance and training; implementation of alternative crop management practices; use of protective equipment; and pesticide waste disposal. This information was again reviewed in terms of municipalities' areas of responsibilities in order to identify the best structure for any future policy development and implementation.

Results

Priorities identified by social actors for public policy

The principal themes identified by both institutional and community actors were: training, production, finance, health, regulation, environment, social benefit, political benefit, planning, and inter-institutional coordination. The first four of these were ranked as being of high and medium importance by both institutional and community actors. The remaining themes were rated at various levels of importance among the actors. However, a both differences and similarities in the rankings could be noted according to type of actor (Table 2)

Training in alternative crop management techniques was mentioned by both types of actors in all three municipalities as a strategic means of improving both productivity and the health of farmers and the environment. However, community actors clearly recognized the interrelationship between health and crop management as associated elements in agricultural productivity. In their opinion, training should cover subjects such as the use of less toxic pesticides and prevention of their damage to human health.:

'We have had no training, we've applied numerous very powerful ingredients which make farmers ill, seriously affecting our health.

'We are untrained and don't receive any technical guidance. We use powerful products and there are mishaps with children and even with ourselves.

Institutional actors trended to associate training benefits with productivity using economic terms. One of the institutional actors noted:

The results should be positive. First, we'd use appropriate pesticides for insect and disease control. Second, we would reduce the costs of production. Lower production costs means more

Priorities	Institutional actors ¹			Community actors ²		
	Q	G	GM	Q	G	GM
Training	3	3	3	3	3	3
Production	3	3	3	3	3	3
Finance	3	3	3	3	3	3
Health	2	3	3	3	3	3
Regulation	3	3	3	2	1	3
Environment	1	2	3	1	1	2
Social benefits	3	2	2	3	3	2
Political benefits	1	1	1	2	3	1
Planning	2	3	3	2	2	2
Inter-institutional cooperation	3	2	3	2	2	1

* Level of importance: 1= Low; 2= Medium; 3= High
¹: Municipalities' policy-makers, technicians and administrative personnel
²: Formal and informal leaders, all farmers
 Q= Quero; G= Guano; GM= Guamote

sales. The consumer will also save money thanks to the increased profitability for the farmer.

This logic explains why—in the three municipalities—a regulatory measure prohibiting the use of highly toxic pesticides was perceived as having a negative effect on farmers’ production and economic profitability. This is particularly the case because so few farmers have training in other techniques of crop management. As a result they were wary of developing and implementing alternatives.

The lack of resources (institutional actors) and the need for a stable budget to invest in training community actors) were the main limitations mentioned by the actors to the development of institutionalized training programs.

Inter-institutional coordination was seen by both groups as one way to overcome existing resource limitations at the local level and ensure that training was offered in a more stable way to the population. This could be done through systematic training programs. In the words of one community actor:

For training programs to continue, coordination is needed amongst all the institutions and with the local municipality.

Actors pointed to the need for bylaws and a fixed budget in order to guarantee implementation of these programs. The lack of resources to implement a possible statutory regulation was identified by institutional actors as one of the main barriers to policy development.

A policy is needed, the municipality should have budget for it. The aid organizations should be involved. There should be a study undertaken by local organizations and the NGO’s in order to create a new municipal ordinance.

The *health* aspect was seen as highly important by most of the community and institutional actors, except for the policy-makers in Quero, who considered it to be of medium importance. (Table 2) However, there was one difference in the conceptualization of health: community actors saw health as a “production resource” while most institutional actors in Quero and Guamote saw health as “a social good” realized through health care service delivery and leading to improvements in the population’s living conditions.

In the Guamote municipality, for instance, health and farming are the two areas of greatest importance in their strategic planning. However,

their approach to health is through financial support for the primary health care services in the canton. Agricultural policy is implemented through support for production. Other municipalities more readily grasped the link between health and the agricultural activities underlying farmers’ productive activities as well as the importance of cross-sectoral actions. This was the case in the Guano municipality which had not previously funded health care. In Guano the fact that farmers’ health can be affected by the mode of production was viewed by policy-makers as new information which could potentially be used in training programs and in support of clean production methods.

The perception that investment in health and agriculture is a *social benefit* was shared by community and institutional actors; this was not the case for the association between social investment and political benefits. Institutional actors in all three municipalities stated they did not expect investment in these two fields to generate any type of *political benefit* to them as policy-makers in the immediate future:

There would be no political benefit. This would only occur after a few years when people began to see that diseases caused by these products were less common.

However, for community actors, the social and political benefits go hand in hand:

Of course there will be some political benefit. How can one vote against a mayor who is supporting efforts to improve our well-being and that of our families?

The interest in supporting production was obvious in the two municipalities (Quero and Guamote) with a greater proportion of rural inhabitants. In Guano, on the other hand, agricultural development was not considered the municipality’s responsibility; it was seen rather as entirely the responsibility of the State. Institutional actors in Guano felt that any municipal involvement in farming would require access to the necessary resources for program implementation.

Both type of actors in all three municipalities saw the environment as a negative externality with respect to production; this was the result of water pollution and soil erosion. For institutional actors in Guamote, however, the environment is one of their strategic axes of action. They see the environment as a necessary resource for production and understand that environmental action improves popula-

tion health. Guamote community actors shared this concern for protecting the environment as a resource for production.

Existing regulatory frameworks

Nearly all of the existing frameworks for pesticide control make the central government responsible for registration and post-registration regulation including control, distribution, and marketing; decentralization of this responsibility to other government agencies is not explicitly mentioned. Unlike other sectors (such as education, environment, tourism, and—in part—health) agriculture has seen little devolution of responsibilities to the municipalities. The exceptions to this rule have been plant and farm animal sanitation which have been decentralized for purposes of pest control. Quero was the only one of the three towns that had been granted this authority; in practical terms, however, nothing had been done because the central government had provided no resources.

Nonetheless it was possible to identify certain opportunities for local authorities to become involved in matters of sustainable agricultural development with respect to human health and the environment. The municipality, acting in coordination with national agencies, could exercise control over the sale of pesticides—for example—with respect to compliance with safety measures, presence of an agronomist, inspection of pesticide type and stocks, the existence of out-of-date or unregistered products, and the prohibition of repackaging. The need for municipal involvement in these matters was highlighted by the fact that the national regulatory agency had only two employees covering the whole of Chimborazo province. A similar situation was seen with agricultural extension, a responsibility shared among various agencies of the Ministry of Agriculture. The ability of the Ministry to meet the needs of its beneficiaries at the community level is quite limited in practice.

Institutional features of the municipalities involved in the study

We observed qualitative differences in each municipality's interest in and involvement with development of a policy and/or program to reduce the health effects of pesticide use.

In Quero, the mayor had spent the previous four years promoting programs for the farming sector and had access to stable resources from a department of Farming Development and a team of trained and committed specialists. This team was key for the research process. They acted as mediators between the Ecosalud II Project research team

and policy-makers who, given their multiple occupations and limited time, were less readily available. Meetings with this working group were proactive, meeting dates were respected, commitments and deadlines were kept, and the political will was there to provide their human and financial resources for the process.

In stark contrast, the other two municipalities clearly suffered from a lack of internal organization. In Guamote, for example, the technical team in charge of the production committee changed three times during the study. This municipality suffered from excessive bureaucratization which clearly delayed and sometimes limited progress. A series of missed meetings evidenced the lack of institutional commitment and made it difficult to agree on a plan of action with this municipality. A generally low level of political commitment in matters of development was evident in practice and contrasted with what the researchers perceived as clientelism among decision makers. In Guano, the mayor's lack of authority was made evident by the limited commitment to the process by councilors and the municipal attorney.

There was clearly far more interest in obtaining financial resources for existing programs, as in Guamote, or in developing new processes, as in Guano. In both towns the offer of new resources, especially financial ones, was felt by the researchers to be a pre-condition to getting institutional actors to sit down at the table to move forward in the formulation and implementation stages.

Policies and programs developed with the municipalities

In Quero and Guano, agricultural development programs were implemented which attempted to reduce the health effects on small farmers of pesticide exposure. Both towns chose a strategy that was consistent with the priorities of institutional and community actors. The Quero municipality opted for establishing a store in the canton which would offer alternative agricultural resources. They also provided ongoing training in the techniques of healthy alternative crop management. Prior to setting up this store, the municipality consulted farmers' organizations. The farmers supported the idea and contributed 16% of the initial capital through the Quero Potato Producers' Consortium. The municipality contributed 50% and the Ecosalud II Project funded the remainder. The total fund was 6000 USD (in local currency). In order to assure its sustainability, the store's existence was formalized in a municipal bylaw establishing its purpose, administrative structure, financing, and the involvement of

farmers' organizations. This political instrument was signed by the institutional actors six months after the center was set up.

The municipality of Guano began similarly by creating a Community Development Unit to promote sustainable agricultural development with an emphasis on training, production, and marketing. Signature of the bylaw formalizing the Unit was delayed 10 months (until February 2008) when the implementation of the Unit became possible thanks to financial contributions from the Chimborazo Potato Producers' Consortium. The initial budget for the first year was 20,000 USD, of which half came from the municipal budget and half from the Producers' Consortium. However, the bylaw did not provide for a stable budget or future sources of finance; this compromised the sustainability of the program during its second year.

In Guamate, there were time limits on the availability of funding support from the Ecosalud II Project for the final stage of the study. Poor municipal management delayed the entire process and—in the end—nothing concrete was achieved.

Discussion

Our goal of developing cross-sectoral public policies on health and agriculture, considering sustainable farming development as a health determinant, was partially met. We had proposed a process of reflection, analysis, and action in terms of the reproduction of living conditions within the process of agricultural production.⁴³ Yet institutional actors hardly strayed from a functionalist conceptualization of the production process. As they saw it, the relationship between the production of objects for consumption and the reproduction of subjects is functional: individuals require the objects created by capitalist agriculture for their own their reproduction. One factor which could have influenced this way of thinking was institutional actors' conceptualization of health which—given their background—was equated with the delivery of health care services.

Factors favoring the Project

In agreement with Testa's definition of the State,¹⁰ the three municipalities we studied showed a certain heterogeneity in their municipal structure as well as different levels of organization and social participation. This was evident in their decision-making processes and their choice of policies.

With respect to institutional structure, the differences between the municipalities were related to critical attitude (wanting a better world) and capacity (ability to reflect on reality and get things

done).¹⁰ In Quero, for instance, it was clear that these two abilities were more noticeable in the technical team than among policy-makers. In Guano the lack of critical attitude led to a solution that was based on more technical rather than social considerations. In Guamate we saw what could be called a sterile opposition to the idea of cross sectoral policies; this stemmed from intellectual conflicts around how best to govern⁹ and from institutional incompetence, despite the existence of a critical attitude in these actors.

Castell-Florit Serrate⁴ has examined how managerial skills and abilities—which develop from training and the development of social capital with organizations with critical skills¹⁰—act as the main trigger for the development of cross-sectorial projects. The differing perceptions seen in how institutional and community actors assessed the social/political benefits of this process (also mentioned by other authors³⁹) reflects limitations in the ability of institutional actors to integrate their skills and critical attitude into their political work.

The heterogeneity of social participation made evident the practical limitations of the term “social actor.”⁴³ The level of social organization among community actors in Quero, for example, promoted political discussion fostered by funding of the institutional actors. This showed a more advanced social process in which the organized subject, initially an individual, becomes a social actor. As such, he or she now assumes the role of decision maker capable of harmonizing the existing power relations in a given context, and influencing the political agenda.^{14,15,43} This explains why—despite health not being considered of high importance by institutional actors in Quero—it was nevertheless in this municipality where policy development was most successful. Furthermore, the incorporation of community decision-makers into the political debate made it easier in our case to incorporate their perceptions and demands into the process. In our opinion this fosters both the development of cross-sectoral policies⁴ and application of approaches based on the social determination of health.

We found that policy development—understood as a series of stages^{39,41,42}—is continuous, but not necessarily linear; this has been noted by other authors.^{12,39,41} For instance, political agenda settings extended into the stage of project implementation. This occurred, for example, in the municipality of Guano where there was uncertainty among the institutional actors about the funding needed to implement the chosen political strategy. Within the local socio-political context, it was necessary to build consensus and form coalitions between vari-

ous actors in order to secure additional funding. This is one of the most important factors influencing the local political agenda and the selection of local political strategies.^{12,15}

The policy outcomes in both Guano and Quero, demonstrate that local policy development also depends on technical feasibility. Policies must be conform to the level of municipal institutional sophistication and overall policies.¹⁵ Both towns chose strategies focused on improving production methods: a) providing information on risks associated with pesticide use and alternative crop management practices; and b) reduction of risk through improved resource management and the use of less toxic inputs.

Future Directions

The development of local policies to improve the health of small farmers by acting on social determinants requires the existence of similar State policies at various levels. The national policies we consider essential include:

1. Improving social conditions in rural areas, through investment in education,⁵⁶ promotion of gender equity in decision-making about productive processes and modes of production,⁵⁷ addressing conditions of chronic economic deprivation⁵⁸ and inequity in the distribution of and access to health services⁵⁹; and
2. Limiting and regulating the implementation of extractive and agro-tech farming models which affect environmental sustainability,²⁰ sovereignty, and food security, and exclude the construction of meaning.⁴³

Moreover, there is a need for regulations promoting social organization and participation, empowerment of individuals and their transformation into social actors.^{4,6,10,20,43} as well as institutions which are more open to citizens' views, values, and priorities.^{60,61} This would allow topics such as development, health, well-being, and quality of life to become part of the political agenda.

Our work, like that of others,^{7,62,63} illustrates the possibilities of working at local decision-making levels to develop public policies addressing the social determinants of health. Future studies should examine local decision making processes, develop methodological approaches to working with institutional actors, promote the development of community actors, and advance the design and implementation of methodological approaches to multi-determination. Such work would promote decision-making processes which encompass the complexity

of social determination and affect the social reproduction of vulnerable population groups.

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