Proposed article for the 7th Biennial Conference of the ISEE (2002)

PACT, a tool for a practical alternative to the co-ordination of actors through market mechanisms

Franck Jésus, Robin Bourgeois

Abstract

The extensive work done on sustainable development and natural resource management has revealed two important facts. First, the analysis of human societies interactions with their environment stressed the importance of efficient co-ordination mechanisms and the dear consequences of the lack of such mechanisms. Second, it appears that preferences on which actors make their choices are not all correctly handled through market processes.

Taking these issues into account is not an easy task. Contingent evaluation methods, through the analysis of actors' willingness to pay, and the related approaches often run into the impossibility to define contingent choices clearly perceived by all actors in the same way. In a totally different domain, the multi-criteria methods face limitations linked to the hierarchical non-participatory framework supposed by their implementation.

Considering the fact that the emergence of sustainable development depends on the existence of an effective mechanism of co-ordination for the different actions influencing a given environment or geographical zone, a team of scientists from CIRAD developed an institutional analysis method enabling the investigation and improvement of the way actors deal with problems of sustainable development: the PACT (Pro-Active Conciliation Tool) method.

This method is based on a phase of interviews and a phase of analysis, which is facilitated by software specifically designed for the purpose. It allows users to analyse actors' perceptions in order to identify the framework of their preferences, reveal the areas of consensus and divergence within these preferences and assess the potential role of each of them in a viable process of change.

Used in situations where interactions among stakeholders are both diverse, numerous and affect a natural resource or a specific quality of the system considered, this method enables analysts to help actors go beyond their differences of opinion and use best the resources available within existing institutions to build and apply collective actions.

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PACT, tool for a practical alternative to actors' co-ordination by market mechanisms

Franck Jésus, Robin Bourgeois

Introduction: the limits of co-ordination through market mechanisms

A few years ago, Stiglitz stated that the existence of externalities, public goods, imperfect information and incomplete markets made it impossible for market mechanisms alone to ensure efficient coordination (Stiglitz, J. 1998). Left to themselves, market mechanisms often lead to pollution, depletion of natural resources, conflicts, which, in turn, affect people's health, economic activities, incomes. However, while market mechanisms have the advantage of being self-organising and self-regulating, the conception and successful implementation of alternative or complementary co-ordination processes for problems of sustainable development and natural resource management is not an easy task.

Different approaches have been explored to tackle this challenge. Some have considered designing artificial markets to manage the qualities of a system that are not cared for by conventional markets, while others have sought ways to take into account values that are not expressed in economic terms.

In the first part of this paper, we will analyse how existing methods such as contingent valuation and multi-criteria analysis tools deal with co-ordination problems. This critical overview will underline the limits of these methods in this domain. In a second part, a new method that tries to overcome these limits will be presented: the PACT (Pro-Active Conciliation Tool) institutional analysis method[1], developed by CIRAD. This presentation will be illustrated with concrete results of its application and followed by a discussion of its potentials for better co-ordination of stakeholders' decisions.

Markets strike back: advocating artificial markets through contingent valuation

Since Smith's "invisible hand", the co-ordination of individual actions is a central issue in economics (Defalvard, H. 1993). Through prices, actors' utility functions, the use of means of production and the resulting goods produced are driven to their optimum levels. However, "qualities" that are consequences of economic activities without being subject to exchange on a market have no reason to reach any optimum. The resulting effects, or externalities[2], can be

[1] The PACT method originates from the "Audit Patrimonial" method (Ollagnon, H. 1998), which has mainly been applied on natural management resources issues (local development and wildlife protection, water basin management…).

[2] By definition, externalities occur when the production or consumption of a good or service by an economic unit has a direct consequence on the welfare of producers or consumers in another economic unit (Gittinger, J.P. 1985).

negative, as in cases of pollution or depletion of natural resources for instance, and therefore limit current and potential development.
To take these externalities into consideration and limit their impact, economist have proposed to create artificial prices to enable an optimum "allocation" of these impacts on artificial markets. It is considered that artificial prices can be taken into real practice through fees or tradable permits on activities generating negative externalities.
While theoretical considerations make these tools appealing, the estimation of the cost of negative externalities or the value of negatively affected qualities generates questions and technical hitches.

Contingent valuation methods are often proposed to overcome this complication through surveys of actors' preferences and the resulting estimation of their willingness to pay for alternative states of the system considered. The development of technical tools to achieve and control these estimations, though, should not hide their weaknesses.
First, it has been shown that the answers to a question on actors' preferences can be related to very different interpretations among respondents. For instance, similar responses on preferences regarding the level of open-space preservation in a given area diverge strongly when spatial layout and location start to be considered (Johnston, R.J. et al. 2000). The way surveys are designed, implemented and interpreted strongly influence the resulting valuation, which cannot, therefore, genuinely picture the complexity of actors' preferences.
Second, the use of a single monetary scale in contingent valuation infers that the qualities over which actors express their preferences are somehow substitutable to any other good or quality with similar value. Beside the fact that irreversibility issues limit the soundness of this hypothesis[3], a doubt is cast on the validity of individual "willingness to pay" (WTP) aggregation. In an attempt to use contingent valuation in Africa, actors, questioned about their possible willingness to receive for letting outsiders access the forest resources they were using, answered by demanding collective services in exchange (Lescuyer, G. 2000). Moreover, these collective services were to be decided collectively. More generally, it appears that values expressed by individuals in a contingent valuation survey reflect social collective values more than individual preferences (Sagoff, M. 1998). In such cases, the use of aggregated individual WTP (or WTR) as an input for cost/benefit analysis or a basis for artificial markets misses out important stakes of collective decisions making.
Third, practical implementation resulting from contingent evaluation, either through fees or tradable permits, is very likely to run into institutional[4] problems. Using fees or tradable permits requires the construction of new rules and means to enforce them i.e. building new institutions. However, new institutions work well only if stakeholders are compliant and gaining this compliance often entails stakeholders' participation in the design and implementation process (Jésus, F. 2001; Brinkerhorff, D.W. 1996a; Brinkerhorff, D.W. 1996b; Minogue, M. 1999; Ostrom, E. et al. 1993). Using contingent evaluation methods and afferent tools and rules fits in a hierarchical decision making mode where values define norms and means of control need to be set up. Since, as shown above, the resulting norms may not adequately represent stakeholders' preferences, and the emergence of strategies to twist or evade them is very likely.

[3] As, for instance, endangered species, once extinct, cannot be resuscitated even if savings had been made up to the value contingent valuation had given to it.
[4] In this document, **institutions** are to be understood in the sense given by D.C. North: "Institutions provide the framework within which human beings interact. (…) Institutions are a set of rules, compliance procedures, and moral and ethical behavioural norms designed to constrain the behaviour of individuals" (North, D.C. 1981, page 201-202).

What if you can't sum up plums and apples? Multi-criteria methods for decision-makers

Attempting to tackle the second type of weakness presented above, i.e. the difficulty to express all preferences in economic terms, approaches such as multi-criteria methods (MCMs) have been developed. They consider that problems like noise disturbance, pollution, landscape degradation, etc cannot be satisfactorily expressed in terms of comparable and substitutable costs and profits (Ben Mena, S. 2000). They have been designed to allow users to consider several criteria to evaluate the advantages and disadvantages of alternative choices.

To use multi-criteria methods, one needs to define alternative choices to a given project, different preference criteria to evaluate these alternatives, scales of evaluation for each criteria and weights to ponder the relative importance of these criteria (Maystre, L.Y. et al. 1994). The application of MCMs intends to facilitate the task of decision-makers by searching the best middle ground option considering the different factors they want to take into account.

MCMs, though, do not provide a way to tackle stakeholders' co-ordination problems. Similarly to the contingent evaluation method, they fit into a hierarchical process of decision where there is one decision maker reflecting on his choices regarding a given project with contrasted options. In fact, they mainly try to render hierarchical decision processes more effective.

However, they have been applied on issues of environmental management and their use in situations where different types of decision-makers are concerned has been considered (Maystre, L.Y. et al. 1994) and tried out (De Marchi, B. et al. 2000). MCMs' use can be halted at the stage where the views of different actors on option valuation have been detailed (Maystre, L.Y. et al. 1994) to leave room for other methods to build co-ordination processes, consensus or compromise. To go further and use MCMs to promote new ways for actors to co-ordinate their decisions would suppose that stakeholders have a shared understanding of a given problem, that criteria are similarly defined and comprehended, that their valuation and weights can be agreed upon and that decision-making consist solely in choosing between options.

Unfortunately, problems of sustainable development and natural resource management do not often match such description: instead of one project with options to choose from, each type of stakeholder may have its own project with several options (Boesen, J. et al. 1999; Thomson, J.T. et al. 1988); there is rarely a shared vision of the situation among stakeholders; conflicts and misunderstanding among stakeholders are common and are hampering constructive dialogue (Rogers, P.J. et al. 1999; Thomson, J.T. et al. 1988). Besides, the problem is often more about how to co-ordinate the different stakeholders' actions over the duration of solution building and implementation rather than deciding about which solution to apply at a given time (Armour, A. 2000; Brinkerhorff, D.W. 1996a; Carney, D. and Farrington, J. 1998; Pretty, J.N. 1995).

Co-ordination beyond market and hierarchy: the PACT method

It remains to see now if it is possible to propose a different method that would take into account the limits of the approaches exposed above. Such a method, thus, should be able, on a given problem, to (1) enable users to deal with complex situations with multiple stakeholders and multiple project with various options; (2) take into account actors' preferences and perceptions as actors conceive them and in their diversity; (3) build a common ground for constructive discussion about common or collective actions; (4) allow for stakeholders' participation in the conception, decision and implementation process of changes; (5) assist the design and implementation of better co-ordination among actors; (6) facilitate the design and application of institutional change conceived and accepted by the different actors.

PACT: the method

The PACT (Pro-Active Conciliation Tool) institutional analysis method (Jésus, F. 2001) was designed for this purpose and is presented below.

At the heart of this method is the importance given to actors' perceptions. It is considered that actors decide upon their actions with the intention to improve their global utility but that this intention, and therefore the resulting choice of action, depends on what their partial perception of reality is. In this consideration, supported by numerous works (Adesina, A.A. and Baidu-Forson, J. 1995; Feather, P.M. and Amacher, G.S. 1994; Johnston, R.J. et al. 2000; Jones, A.M. 1989; Lin, C.T.J. and Milon, J.W. 1993; Negatu, W. and Parikh, A. 1999; Sukharomana, R. and Supalla, R.J. 1998; Wossink, G.A.A. et al. 1996), the fact that actors' perceptions are partial (no actor has complete exhaustive information on a given situation, on other actors, their strategies and expectations) is crucial. This partiality of each actor's perception needs to be addressed in order to understand the current interaction processes and facilitate the design of better co-ordination processes with stakeholders.

To achieve this, the implementation of PACT uses individual interviews. Regarding a given problem or issue, a set of the different types of actors concerned is consulted using a specific grid (Figure 1). The interviewer goes with each actor through an open guided discussion over four points:(i) the way the actor perceives the current situation and the other actors involved, the different actions and interactions taking place and their effect, (iii) the different possibilities of evolution and (iv) the actions the actor would propose to improve the current or future problems. This process is not a survey with closed questions. Interviewers only use the pre-defined grid as a guide to organise the discussion and reorganise the resulting information. They pay much attention at following the way the actor thinks and perceives the system studied.

PACT institutional analysis method
Grid for Interview

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Point I : the situation and the actors

- How does the actor assess the current state of the system? Is this current state satisfactory?
  - What is satisfactory?
  - What isn't? Which actors are concerned by the situation? Which actors are affected by the current state of the system and its evolution?
  - Which actors determine directly or indirectly this current state ?

Point II : actions & interactions

- Which Actions of the actor and of other actors have an effect on the system ?
- What are these effects?
- How do actors interact?
- Are there means to regulate these interactions?
- What are the effects of these interactions on the system?
- Have there been changes in actors' actions and interactions that affected the system?

Point III : possible evolutions of the system

- What evolution is more likely for the system on the middle-long term ?
- What evolution of the system would be more favourable?
- What would be a less favourable evolution of the system?
- For these three evolutions, can the path leading there from the present be described?
- What consequences would each evolution have on the system and its actors?
- What would then be the more likely reactions of the actor?

Point IV : proposals for change

- What are the preferences, the demands of the actor regarding the evolution of the system?
- What actions and path of change would the actor propose to satisfy his preferences?
- What organisation, co-ordination mode would the actor propose to make these changes possible?
- What role for the actor and for the others in this path of change, in this co-ordination mode?

Figure 1

Through this process, it becomes possible to identify the diversity of projects among stakeholders, and the preferences and perceptions of the different actors. To deal with this information, the concept of "quality" is used (Ollagnon, H. 1998). Qualities refer to the fact that, as different actors look at the same system in different ways, they pay attention to various aspects of this system. The different "qualities" of the system are those aspects that they would like to see improved. Looking at a river, for instance, one actor will see it as part of a transportation network, another as a water resource and a thirdone as an ecosystem. This defines three ways to pay attention to the same river, three qualities.

Through the interview process, actors expressing themselves about how they see the system considered, how they see the effect of others' actions on it and how they see its evolution in the future, inform the interviewer about the qualities they regard as important and around which they define their preferences. The will of an actor to see a quality improved defines its "demand" for the quality.

In a similar way, by interviewing actors about what they currently do or would do to improve the current situation, information is provided regarding how perception shapes actions. And actions

having a positive effect on qualities of the system define the "offers" of each actor for these qualities.

Analysed with the PACT method, this information can facilitate the identification of common ground for collective co-construction of change. With the help of software designed for the method (Jésus, F. 2001), it is possible (i) to reveal existing consensus regarding how actors would like to see the situation evolve, (ii) to identify fruitful opportunities of collaboration among them, and (iii) to identify key stakeholders likely to initiate a process of change. Qualities for which most actors have a significant level of demand bring to light where most actors agree an improvement is needed. Offers corresponding to others' demands for quality improvement reveal where collaborations appear promising and feasible. And combinations of high offer levels with strong recognition of a role to play by other actors point out stakeholders who can potentially make changes happen.

PACT applied in Vietnam

The example of the sustainable development of the pig commodity chain in northern Viet Nam[5] will serve to illustrate these different points. The analysis of quality demands shows areas of consensus unexpected for many stakeholders (Figure 2). Actors agreed to say (1) that pig production should become more profitable to farmers through more efficient production processes (Pdo Efficient) and improved selling conditions (Pdr sel. Out.), (2) that disease control should be better to allow for a more stable production (Stable pdo), (3) that relation with national urban and international markets should be improved (Trd Ex Sys). Moreover, beside being areas of consensus, these four qualities also appeared to be the most important qualities in stakeholders mind, combining both high level of total demand and insufficient level of offers (Figure 3).

As expected, these unveiled consensuses provided a starting ground for discussions on changes to improve the system easily accepted by the different stakeholders. Besides, it is worth underlining the fact that these discussions gradually included issues such as the relations between traders and farmers (Col. Sys.), food safety (Food safety) or the control of pig waste pollution (Living Evt), which would have been impossible to discuss without friction at first for lack of consensus.

[5] Results for this example were obtained as part of a project (1998 to 2001) involving a team of scientists and analysts from CIRAD ECOPOL, the Vietnam Agricultural Science Institute and the Vietnam Ministry of Agriculture and Rural Development.

Figure 2

Demand on quality

Legend:

>0	*means*	Actor demanding for the Quality
0	*means*	Actor neutral for the quality
5		Very high demand
4		High demand
3		Medium demand
2		Low demand
1		Very low demand

	Col. Sys	Trd Ex Sys	Pdo efficient	Living Evt	Stable pdo	Food safety	Pdr sel. Out.
Central govt	3	4	4		3	1	4
Province	2	2	2		2	1	3
Soentreprise	2	2	2		3	-	4
Wholesalers	1	4	2		2	2	1
District auth.	2	4	2		1	1	2
Dist. Ext. Serv	3	3	3		2	1	2
Dist. Vet	-	2	4	-	4	2	2
Bank	2	3	3	-	1	-	2
Commune	2	3	2	-	2	-	3
Frmr pig>	1	3	2	1	3	-	2
Frmr pig<	1	1	2	-	2	-	-
Frmr piglet	1	1	2	-	1	-	1
Retailers	1	2	1	-	2	2	2
Slaughterers	-	2	1	-	1	1	2
Collecters	1	4	2	-	3	-	2
Consumers	-	3	1	-	2	4	1
Hanoi retailers	-	4	-	-	-	2	3
Hanoi wholes.	3	4	3	-	-	-	4

N.B.: In this table, actors are indicated in the first column, qualities in the first line and values between 0 and 5 represent the level of demand of the different actors on the different qualities. Circles have been drawn for qualities where a consensus of demand exists.

Figure 3

Comparison between total offer and total demand for the different qualities related to the performance of the pig commodity chain

	Col. Sys	Trd Ex Sys	Pdo efficient	Stable pdo	Food safety	Pdr sel. Out.
Total demand	27	53	43	40	19	38
Ratio O/D	22%	28%	42%	38%	21%	24%

The comparison of the existing offers with the demands of the different actors showed that some actors, who were not considered as key stakeholders by traditional decision-makers, could in fact play an important role. Such is the case of the private suburban wholesalers-slaughterers whose potential role was revealed using the PACT method (Figure 4). Unveiling this information provoked a welcome surprise among many stakeholders and enabled them to design arrangements that were not considered before. In fact, these private wholesalers became leader in the construction of new coordination modes for the improvement of the pig commodity chain performance. As such, this type of result adds to the detection of consensus areas in providing the basis for a collective constructive debate.

Figure 4

Offers complementary to demands

Offers ↓ / Demands →	Central govt	Province	Soentreprise	Wholesalers	District auth.	Dist. Ext. Serv	Dist. Vet	Bank	Commune	Frmr pig>	Frmr pig<	Frmr piglet	Retailers	Slaughterers	Collecters	Consumers	Hanoi retailers	Hanoi wholes.
Total dem →	20	12	13	12	13	15	14	11	13	11	6	6	11	7	12	11	9	14
Central govt		7	7	7	7	7	6	7	7	7	5	6	6	5	7	5	3	6
Province	5		5	5	5	5	4	5	5	5	4	5	5	4	5	4	2	4
Soentreprise	7	6		5	7	7	5	6	7	6	4	5	7	5	6	4	3	5
Wholesalers	2	2	2		2	2	2	2	2	2	1	1	2	2	2	2	2	2
District auth.	4	4	4	4		4	4	4	4	4	3	4	4	4	4	4	2	3
Dist. Ext. Serv	2	2	2	2	2		2	2	2	2	1	2	2	2	2	2	1	2
Dist. Vet	7	7	6	7	6	7		5	6	6	6	5	6	4	6	5	2	4
Bank	3	3	3	3	3	3	3		3	3	3	3	2	2	3	2	1	3
Commune	3	3	3	3	3	3	3	3		3	2	3	3	3	3	3	1	2
Frmr pig>	4	4	4	4	3	4	4	3	4		3	3	4	3	4	4	1	2
Frmr pig<	2	2	2	2	2	2	2	2	2	2		2	2	2	2	2	-	1
Frmr piglet	3	3	3	3	3	3	3	3	3	3	3		2	2	3	2	-	2
Retailers	2	2	2	2	2	2	2	2	2	2	1	1		2	2	2	2	2
Slaughterers	2	2	2	2	2	2	1	2	2	2	2	2	2		2	1	1	2
Collecters	1	1	1	1	1	1	1	1	1	1	1	1	1	1		1	1	1
Consumers	2	2	1	2	2	2	2	1	1	1	1	1	2	2	1		2	1
Hanoi retailers	2	2	1	2	2	2	2	1	1	1	1	1	2	2	1	2		1
Hanoi wholes.	4	4	4	4	4	4	3	4	4	4	3	4	4	3	4	3	2	

N.B.: In this table, actors are indicated in the first column and in the first line. The total demand of each actor is indicated below the name of the actor in the second line. Values in the table represent the level of offer of an actor in the first column corresponding to related demands of each actor in the first line.

Revealing areas of consensus and assessing the potential role of the different stakeholders facilitate the emergence of new co-ordination processes, and so does the analysis of the complementarities between quality offers and demands. Investigating areas of legitimacy for the different stakeholders can help go even further. As actors express themselves about what the other actors should do in a process of change, they provide information regarding which actor they consider legitimate to act and which type of action they consider him/her legitimate to get involved in.

Since these actions affect the different qualities at stake in the system, it is possible to assess the legitimacy of the different actors regarding the improvement of these qualities. It is also possible to combine this information with results on actors' offers and actors' involvement in action, and assess, quality by quality, who is, at the same time, willing, able and legitimate to initiate a process of change.

In the case of the pig commodity chain in northern Viet Nam, this analysis provided useful information for analysts willing to help actors design new co-ordination mechanisms to improve the sustainability of the commodity chain development (Figure 5). For each quality, it revealed which stakeholder had a potential leading role (voluntary and legitimate) in a process of change: private wholesalers and the Central government were best suited to initiate improvements in the relations with national urban and international markets (Trd Ex Sys); piglet producers, commune authorities and the veterinarian services were best suited to initiate improvements in pig raising profitability (Pdo Efficient, Pdr sel. Out.); and commune authorities, veterinarian services and big pig raisers were best suited to initiate improvements in disease control for a more stable production (Stable pdo).

Figure 5

Voluntary and accepted capacity of action

	Col. Sys	Trd Ex Sys	Pdo efficient	Living Evt	Stable pdo	Food safety	Pdr sel. Out.
Central govt	5	34	12	-	4	-	8
Province	1	1	5	-	7	-	3
Soentreprise	11	22	1	-	-	-	6
Wholesalers	-	36	-	-	-	-	-
District auth.	-	5	1	-	6	-	1
Dist. Ext. Serv	-	-	11	-	-	-	8
Dist. Vet	4	2	18	-	28	11	-
Bank	-	3	12	-	-	-	-
Commune	-	-	16	-	15	-	13
Frmr pig>	-	-	9	-	14	-	16
Frmr pig<	-	-	10	-	7	-	-
Frmr piglet	-	-	20	-	7	-	-
Retailers	-	12	-	-	-	-	-
Slaughterers	2	6	-	-	-	-	-
Collecters	-	6	-	-	-	-	-
Consumers	-	-	-	-	-	-	-
Hanoi retailers	-	5	-	-	-	2	-
Hanoi wholes.	9	16	1	-	-	-	3

N.B.: In this table, actors are indicated in the first column, qualities in the first line. A number appear only if the actor is willing, able and legitimate for a given quality. High level of offer combined with high level of legitimacy give with a high value in this table. But no offer with high legitimacy, or the reverse, gives a zero value.

Through this analysis a framework for change emerged, supported and accepted by stakeholders: a set of actions along with a set of actors to initiate them. Moreover, all stakeholders considered this framework not as a proposal of action devised through the analysis but as the translation of the

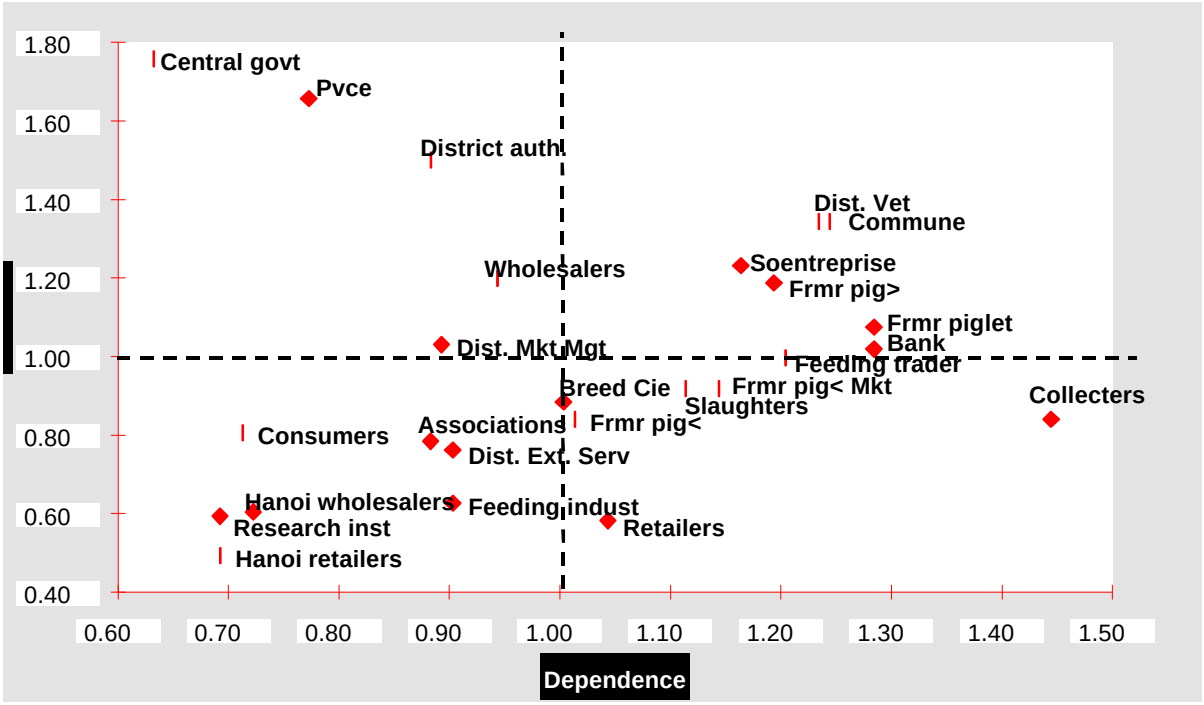
different wills and expectations of stakeholders combined in a coherent and acceptable frame. What remained to be seen then, was how to start the whole process and how to link the different levels of action.

Another type of information gathered through the surveys help to achieve this: information on conditional offers. As actors presented their proposal of action to improve the current or future problems, they expressed offers that could appear, provided some particular actions of other actors started first. This set a web of inter-relations where the positive actions of some actors can trigger positive actions of others, i.e. where some actors can influence others in a positive process of change.

Translating influence levels on tables that can be processed through structural analysis tools derived from prospective analysis (Godet, M. 1991), a map of the influence and dependence of the different stakeholders can be drawn (Figure 6). Actors located in the upper left quadrant of this graph, those with high influence and low dependence, are the more determining ones, while actors located in the lower right quadrant, those with low influence and high dependence, have potential actions whose implementation depends on the formers' actions. Results for the performance of the pig commodity chain (Figure 6) confirmed the potential leading role of the government and of the private wholesalers.

Figure 6

Importance of stakeholders for the materialisation of conditional offers concerning the performance of the pig commodity chain
(Direct and indirect influences)



Legend:

Associations: Official farmers association
Breed Cie: Pig breeding state company
Central govt: Central government authorities
Collecters: Pig collectors
Commune: Commune and co-operative authorities
Consumers: urban consumers
District auth.: District authorities
Dist. Ext. Serv: Agricultural extension services
Dist. Mkt Mgt: Market management service
Dist Vet: Veterinary services (public)
Frmr pig>: Farmers raising many pigs
Frmr pig< Mkt: Market oriented farmers raising few pigs
Frmr pig<: Farmers raising few pigs
Frmr piglet: Piglet producers
Feeding indust:Industries producing pig feed
Feeding traders: traders of pig feed (& pig medicine)
Hanoi retailers: Urban pork retailers
Hanoi wholesalers:Urban pig slaughterers-wholesalers
Pvce: Provincial authorities
Research inst: Research institutes
Retailers: Rural pork retailers
Slaughters: Rural pig slaughterers
Soentreprise: State-owned pig processing *companies*
Wholesalers: Pig wholesalers

Within the implementation of the PACT method, these different types of results where presented to stakeholders and served to promote a collective construction of new co-ordination mechanisms. Using organised workshops, representative of stakeholders were invited to collectively design actions to improve the situation of their system. Discussions are shaped around the areas of consensus that have been identified and deal with the actions identified by actors as requiring the co-ordinated work of different types of stakeholders.

The whole process from the preparation of the interviews to the final workshops and their follow-up is designed to maximise institutional sustainability. The topic to which the method is applied must genuinely concern the different actors. Interviews are done in such a way that analysis results can be based on actors' perceptions and real preferences. The workshop in itself allows a validation of these results and goes even deeper in the construction of a sustainable process: (1) it provides a common representation and understanding of the situation; (2) it builds a bridge among actors to help them go beyond their divergent views; (3) it enables the different actors to conceive new rules of co-ordination themselves ensuring thus a higher likelihood of proper application and real compliance.

Conclusion: results, prospects and limits of the PACT method

In northern Viet Nam, the whole process led to the creation of an inter-professional organisation of actors concerned by the pig commodity chain. Farmers decided to form groups to allow easier relations with traders and extension services. This facilitated an agreement with traders to develop contracts allowing for the development of better quality products. The whole scheme took further strength with district and provincial authorities agreeing to recognise the emerging institution, to provide technical assistance to farmers' group to work on quality improvement, along with the services of veterinarians closer to producers. Added to this private wholesalers engaged themselves in promoting the involvement of retailers to start working on the improvement of food safety level at all stages, and representative of the government gave the green light to the whole process along with the assurance to promote it through television media.

The example used in this paper is not a classical case of sustainable development problem. However, this case has a pattern that is close to such problems: multiple stakeholders are involved, with multiple and diverse interests in one system, individual actions in one point of the system affect other points and other actors. Thus, it is clear that this method has a potential for applications that go beyond commodity chain performance improvement. In fact, it is currently under application on a case of mangrove deforestation in Asia, and on the difficult topic of genetically modified seeds management in France.

This method proves more effective when combined with other complementary tools, as it was the case for the work done on the pig commodity chain in northern Viet Nam. The joint implementation of technical and economic studies, for instance, can support the institutional approach of PACT. They can help stakeholders build common views on technico-economic aspects and they can provide useful information on the feasibility of collectively agreed plans for change. In fact, this kind of method combination is one of the current lines of research undertaken by the authors of this paper[6].

[6] A « to be published very soon » book on this topic should be available early 2002: Jésus F., Bourgeois R., 2002. Reconciling actors' preferences in agricultural policy, Handbook for a new management of public decision. 130 pages

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