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Design of a DS Tool to assist companies of the developing world in the assessment of their sustainability performance and the selection of sustainability programs

Jorge Duque-Rivera¹

Department of Mechanical and Production Sciences Engineering
Escuela Superior Politécnica del Litoral
Campus Gustavo Galindo Km 30.5 Vía Perimetral
P.O.Box 09-01-5863
Guayaquil-Ecuador
Tel. 593-4-2269372
Fax. 593-4-2852851
e-mail: jduque@espol.edu.ec.

Frank Noonan

Department of Management & Industrial Engineering Program
Worcester Polytechnic Institute
100 Institute Rd.
Worcester, MA 01609-2280
Tel: 508-831-5290
Fax: 508-831-5720
email: fnoonan@wpi.edu

JORGE DUQUE-RIVERA

Jorge Duque-Rivera is a Faculty member at the Department of Mechanical and Production Sciences Engineering at the Escuela Superior Politécnica del Litoral in Guayaquil-Ecuador where he teaches courses in Industrial Energy Conservation and Environmental Impact Assessment. He is an interdisciplinary PhD candidate at Worcester Polytechnic Institute in Environmental Management and Policy.

FRANK NOONAN

Frank Noonan is an Associate Professor at Worcester Polytechnic Institute (Worcester, MA) in the Department of Management. He received his Ph.D. in Industrial Engineering from the University of Massachusetts. He teaches courses in operations risk management with research interests in risk management as applied to sustainable production and marine transportation systems.

¹ Corresponding author.

Abstract:

Demands for improved corporate social and environmental performance are on the rise. Big MNC's have faced them and companies in the developing world are already feeling them, particularly those firms with main markets in the developed world. These companies need to identify the sustainability performance demands they face, to prioritize them and to develop adequate responses. A DS Tool to assist companies in the process is currently being designed. The tool has three modules: a module to assess the firm's sustainability performance against external demands, a module with an inventory of generic sustainability initiatives and the company resources they entail, and an integration module where the company measures its internal strengths and weaknesses against the external demands and the options available. In this paper the progress made with the development of the first module is presented. The module development is being performed in the context of the banana industry in Ecuador. The development calls for the identification of the sustainability demands and their dimensions, the design and deployment of a process for establishing priorities among the demands, and the design of a system to score performance of the firm in each of the issues.

Keywords:

Sustainability, DS Tool, Developing countries, banana industry

Introduction

Demands for improved corporate social and environmental performance are on the rise and producers (companies and/or individuals) in the developing world are already feeling them, particularly those with main markets in the developed world (Duque-Rivera and Noonan, 2002). These producers need to identify the sustainability performance demands they face, prioritize them, measure their performance and develop responses accordingly.

The aforementioned three-stage process is considered difficult even for structured, and resource endowed multi-national corporations (MNCs), let alone for the small to medium size producers of the developing world. Difficulties are many, among them and perhaps the key one is the lack of a well defined set of sustainability demands to which producers have to respond, this is recognized as recently as in the Welcome portion of the Call to the present Conference (GIN, 2002) and by several authors (Becket and Jonker, 2002; Kapstein and Wepke, 2001). Even if there was agreement on the sustainability demands, their prioritization is considered to be problematic as firms may need to consider the views of their sustainability stakeholders which in turn may entail a process for identifying them and their prioritization in terms of certain criteria (Madsen and Ulhoi, 2001). Even then businesses must be careful not to alienate some (Kapstein and Wepke, 2001). Finally, there is also a lack of documented sustainability initiatives from which small to medium scale producers can learn and select their responses.

A Decision Support Tool to assist small to medium size producers of the developing world is in the process of being designed. The DS tool comprises three modules: a module to assess the firm's performance against external sustainability demands, a module with an inventory of generic initiatives and the organizational resources they entail, and an integration module where the organization measures its internal strengths and weaknesses against the external demands and the options available.

In this paper the progress made with the development of the first module of the DS tool is presented. The module development is performed in the context of a medium size banana producer in Ecuador. The development calls for the identification of the sustainability demands and their dimensions, the design of a process for establishing priorities among the demands, and the design of a system to score performance of the firm in each of the issues and to aggregate the scores in an overall score. The paper presents the structure of the performance assessment module including

some tentative sustainability issues to consider, and the design of a process to establish the priorities among the different issues and broadly delineates the deployment of the process.

1. Sustainability Demands

In this paper, the sustainability concept is first reviewed from the macro point of view, as sustainable development is essentially a societal issue, and from there the discussion is moved towards the level of the organization. This approach has been followed by other authors (Wilkinson and Hill, 2001; Spencer-Cooke, 1998; Roome, 1998; Lamming et al, 1999) and has the advantage that the debate and definition of the issues that have relevance at the macro level serve to inform the analysis of the implications of SD at the organizational level.

The term, sustainability, is derived from the concept of sustainable development which is defined in the Brundtland Report (WCED, 1987) as “development that meets the needs of the present generation without compromising the needs of future generations”. For industrial or other producing organizations, the concept still needs to be concretized and firms are trying to decipher the meaning of their responsibilities and the type of responses they might need to provide (Kaptein and Wempe, 2001; GIN, 2002).

“For the concept of sustainability to be meaningful it must refer to maintaining, renewing or restoring something specific” (Wilkinson et al, 2001). The problem is to define what is to be sustained as “different groups in different contexts and times will have different perceptions of what needs to be sustained” and, also, about how to accomplish it. (Welford et al., 1998).

Sustainability has been stated as “the persistence of certain necessary and desired characteristics of people, their communities and organizations, and the surrounding ecosystem over a very long period of time (indefinitely).” Accordingly, “achieving progress toward sustainability implies maintaining and preferably improving, both human and ecosystem well-being, not one at the expense of the other.” (IISD,1997). Development means “to expand or realize the potentialities of, bring gradually to a fuller, greater, or better state. It has both qualitative and quantitative characteristics and is to be differentiated from growth which applies to a quantitative increase in physical dimensions.” (IISD, 1997).

Lamming et al. (1999) state that sustainable development is not commensurate with the scale of a business and argue that companies engaged in trying to satisfy the broad social concerns that the SD

concept entails might run into difficulties and that they might be better off concentrating in delivering “environmental soundness”². However, there are increasing pressures for companies to deliver in the social front along with the already more structured demands for environmental and economic performance. Companies have now to deal with an expanded set of stakeholders, and have to deal with and deliver performance on a broadening range of issues on what has been called the “triple bottom line”: social, environmental and economic (Elkington, 1997).

The environmental demands have been present for a long time and are dependent on the country, type of industry, sector and firm (Schot and Fischer, 1993). Issues of interest range from local to global including natural resource conservation, depletion of non-renewable resources, increasing pollution, ozone layer depletion, global warming, among others. Poor performance of producers along these issues have impact on the social environment and the importance of these interactions is increasingly being recognized to the point that multilateral development institutions, like the World Bank, have started to demand the incorporation of social impact assessments for big development projects. The World Bank also has policies regarding indigenous peoples, gender equity, forced displacement of population among the issues to be considered in such projects (World Bank, 2001).

The management of purely environmental issues are prone to technological responses, which are more in the normal sphere of influence for business. The management of social demands, that in some cases might even go against local traditions are considered more difficult to deal with (Bragg Kevin, Bonita Europe, private communication, December 2001, Guayaquil, Ecuador).

The pressures for increased social responsibility from business come from different sources. Table 1 shows some of these sources and the type of pressures being applied.

Table 1

² Environmental soundness “requires the conservation and enhancement of the natural resource base and life support systems, the minimization of depletion of non renewable resources, the reorientation of technology and risk management, the merging of environment and economics in decision making and the recognition that the world’s ecosystems and economies are interconnected. It does not entail very long term horizons or intragenerational or intergenerational equity” (Lamming et al, 1999)

Social Responsibility Pressures on Firms

Stakeholder	Pressure
International Community (UN)	Respect and promotion of human rights, labor rights, elimination of poverty, ethical trading.
Governments	Shrinking role in regulating business forces companies to adopt their own policies to manage their environmental performance, working conditions and ethical marketing practices and account directly to stakeholders.
Consumers	Increasing demands in business to business purchasing for customers to include social criteria in sourcing decisions, Increasing awareness of ethical and social responsibilities of producers of consumer products along their supply chain.
Investors	Demands for increasing social and ethical performance and disclosure.
Financial	Use social and ethical criteria by banks and insurance companies.
Community	Demand for jobs, community investments, increasing social and ethical performance and disclosure by the communities, Demands for social and ethical performance by NGOs, More participation in decisions that affect them.
Workforce	More competitive labor force markets in developed world and respect for human and labor rights in the developing world.

Sources: (BSR, 2002; UN, 2001; ETI, 2000; SAI, 1997; Duque-Rivera and Noonan, 2002; Kaptein and Wempe, 2001). Elaboration by the authors.

Additionally, new and emerging issues include: corporate governance issues; religious freedom in the workplace; consumer concern over the use of genetically modified food; increased interest in environmental sustainability, and the “cyber ethics” issues of access to and privacy linked to information technology, both for consumers and employees. (BSR, 2002)

Corporate social responsibility (CSR) has been defined as “operating a business in a manner that meets or exceeds the ethical, legal, commercial and public expectations that society has of business.” (BSR, 2002). According to BSR (2002) corporate leaders see CSR as a “comprehensive set of policies, practices and programs that are integrated throughout business operations, and decision-making processes that are supported and rewarded by top management” (BSR, 2002). For small to medium size producers, especially in the third world, it is clear that comprehensiveness may be too ambitious and that they need to carefully choose what issues to consider and design

their responses accordingly. To do this, firms need to determine how well they are doing on the issues and how important these issues are (Duque-Rivera and Noonan, 2002)

The business case behind CSR is that companies showing social responsibility have reportedly experienced several benefits including: reduced operating costs, increased sales and customer loyalty, improved financial performance, enhanced brand image and reputation, increased productivity and quality, increased ability to attract and retain employees, reduced regulatory oversight and access to capital (BSR, 2000). These situations have been called “win-win-win” situations. Kapstein and Wempe (2001) state that “whenever an environmentally responsible approach or social policy actually leads to economic benefits, everyone will enthusiastically support the objectives of “sustainable development”. However, the authors state that “the situation becomes more difficult whenever environmental protection or social progress comes at the expense of short-term economic benefits.” The decisions that need to be made or actions that need to be taken may then also entail some trade offs and companies needs tools to make decisions and communicate their decisions.

We have suggested that, rather than directly assess stakeholder demands, the use of internationally accepted sustainability codes to assess performance would be a resource-efficient approach that small to medium sized firms can follow in the process of developing their sustainability responses. (Duque-Rivera and Noonan, 2002). We used a social performance assessment checklist to measure the performance of two banana-producing organizations in Ecuador to test its proposition. The checklist was developed by the Center for Sustainable Development of the University of Ghent in Belgium as part of sustainability inventory assessment tool for firms (CSD, 2000). The social portion of the checklist included human and labor rights issues. We found that such a checklist did not support the objective of informing firms on how well they performed and which issues were more important, and that a tool to inform decision making requires a schema for scoring and prioritization. We also found that the issues covered by the checklist did not allow firms to compensate through programs they have in other social areas like the provision of schooling for the children of the workers or the provision of basic medical services to workers and their families.

2. The Sustainability performance assessment module

The problem of selecting sustainability programs in firms is a multiple criteria decision making problem as several issues need to be considered, social, environmental and economic. A decision

framework for this problem then should be able to handle several criteria, allow their prioritization, include a scoring model to rate the different options available and allow the aggregation of scores for the rating of the alternatives.

The first step in the development process of the proposed decision support tool calls for the assessment of the performance of a firm on the social and environmental issues that are considered important by their stakeholders. These social and environmental issues need to be defined. Also the issues need to be prioritized and a scoring model needs to be designed so that companies can rate their performance. In the present work, we follow the proposition that small to medium size producers of the developing world use a suitable sustainability performance assessment code as a surrogate stakeholder to determine what issues to consider. We are currently evaluating three: the UN Global Compact (UN, 2001), the Ethical Trade Initiative (ETI, 2000) and the SA 8000 (SAI, 2000). Additionally, the environmental issues of the Global Compact will be complemented with those included in the ECO-OK seal (Rainforest Alliance, 2002) which is also applied in the banana sector. As for emerging issues, the issues included in the BSR website and recent literature will be consulted.

As stated earlier, a suitable sustainability performance assessment tool needs to inform the evaluated firm on what issues are more important and on how to rate their performance on each of the issues.

A popular tool for multiple-criteria decision-making is the Analytic Hierarchy Process (AHP) (Saaty, 1994). AHP has been used in decision situations including benefit/cost analysis and resource allocation in several settings (Saaty, 2001), and is considered a powerful tool in structuring fuzzy and complex problems (Pun and Hui, 2001). AHP has also been used in group decisions (Saaty, 2001; Armacost et al, 1999) and in the context of integrating stakeholder values into corporate environmental decisions (Earl and Clift, 1999). This last application is relevant to the overall development work as the decision context may include several stakeholders with different views of the importance of the sustainability issues that a firm has to deal with, and the firm might need to integrate their views in the decision.

The AHP principles are explained elsewhere (Saaty, 1994, 2000) and the framework includes the following steps (Rangone, 1996):

- 1) Development of a hierarchy for the decision problem in terms of the overall objective, criteria, sub-criteria and decision alternatives (See Figure 1)
- 2) Determination of the relative priorities of criteria and sub-criteria by pairwise comparison of their importance with respect to the element of the upper level.
- 3) Rating of the decision alternatives with respect to the sub-criteria.
- 4) Calculating the overall ratings of the decision alternatives by weighting the suitability ratings with the relative priorities of the criteria and sub-criteria.

[Figure 1]

For the development of the sustainability performance assessment model all four steps are needed. Steps 3 and 4 are however re-stated to read: 3) Rating of the performance of the company with respect to the sub-criteria (for a multi-plant or multi-site firm the performance of each plant/site could be rated), and 4) Calculate the overall performance ratings weighting the scores obtained with the relative priorities of the criteria issues and the sub-criteria.

For the effective application of the AHP the hierarchical structure must include criteria and sub-criteria that are independent, non-redundant and additive (Rangone, 1996).

Sustainability issues

For this work we constructed the hierarchy for the performance assessment module by utilizing, first, the issues considered in the UN Global Compact (UN, 2001) and then the codes (ETI, SA 8000, ECO-OK), the issues considered by BSR (2002), the CSD (2000) and the literature.

The Global Compact is a voluntary initiative, encompassing nine principles which were drawn from the Universal Declaration of Human Rights, the ILO's Fundamental Principles on Rights at Work and the Rio Principles on Environment and Development. The Compact asks companies to act on

these principles in their corporate domains. The Compact promotes good practices by corporations; it does not endorse companies. Although the UN states that the Global Compact is not a code of conduct, it can be adopted as one. The Compact has two advantages over other codes. It is endorsed by the UN and a set of diverse stakeholder groups collaborated in its development.

The principles of the Compact are grouped under three headings: human rights, labor rights, and environment. Under human rights the Compact demands that businesses support and respect the protection of international human rights within their sphere of influence (Principle 1); assures that their own corporations are not complicit in human rights abuses (P2). Under labor issues the Compact asks businesses to uphold freedom of association and the right to collective bargaining (P3); the elimination of forced and compulsory labor (P4); the effective abolition of child labor (P5); and the elimination of discrimination in employment decisions and work practice (P6). With regards to the environment, the Compact asks businesses to support: a precautionary approach to environmental challenges (P7), to undertake initiatives that promote greater environmental responsibility (P8); and to encourage the development and diffusion of environmentally friendly technologies (P9).

The Compact does not prioritize the principles, but this work presents a process to accomplish prioritization.

In Tables 2a and 2b the Principles included in the Compact are compared with those considered by ETI, SA 8000, ECO-OK, BSR and CSD.

Under each of the principles the Compact state issues that committed firms must take into consideration. These issues can be used as sub-criteria (or means-end objectives) for assessing performance. Table 3 shows these issues for Principle 1.

The Compact seems to include a pass/no-pass type of performance rating on each of the issues. While this approach may be justified for some critical issues, others might allow a scale to rate performance. This work presents the preliminary development of a scoring system.

Table 2a

Comparison of Social Principles of the Global Compact with other Codes

Heading	Principle UN Global Compact	ETI Base Code	SA 8000	ECO-OK	BSR	CSD
Human Rights	P1. Support and respect the protection of international human rights within their sphere of influence	Workplace focus with all issues included but the provision of education and health services.	Same as ETI	Broadly included	Broadly included	Same as ETI
	P2. Make sure corporations are not complicit in human rights abuses	Workplace focus, not included	Workplace focus, not included	Not explicitly included	Broadly included	Workplace focus, not included
Labor	P3. Freedom of association and effective recognition of the right to collective bargaining	Included	Included	Included	Under Human Rights and Responsible Work Practices	Included
	P4. Elimination of forced and compulsory labor	Included	Included	Under fair treatment of workers, not explicitly	Under Human Rights and Responsible Work Practices	Included
	P5. Effective abolition of child labor	Included	Included	Includes prohibition of hiring minors as defined by the applicable laws	Under Human Rights and Responsible Work Practices	Included
	P6. elimination of discrimination in respect of employment and occupation	Included	Included	Included	Under Human Rights and Responsible Work Practices	Included

Sources: UN, 2001; ETI, 2002; SAI, 1997; Rainforest Alliance, 2002, BSR, 2002; CSD, 2000

Table 2b
Comparison of Environmental Principles of the Global Compact with other Codes

Heading	Principle UN Global Compact	ETI Base Code	SA 8000	ECO-OK	BSR	CSD
Environment	P7 Precautionary approach to environmental challenges	Workplace focus, only workers health and safety included	Same as ETI	Ecosystems conservation Wild life conservation Minimal and strictly managed use of agrochemicals Complete and integrated waste management. Water resources and soil conservation. Environmental planning.	Broadly included	For the use of new chemical products but with focus on workers health and safety
	P8 Undertake initiatives to promote greater environmental responsibility	Not included	Not included	Implicitly	Broadly included	Not included
	P9. Encourage development and diffusion of environmentally friendly technologies	Not Included	Not Included	Includes the utilization of environmentally friendly technologies	Broadly included	Not included

Sources: UN, 2001; ETI, 2002; SAI, 1997; Rainforest Alliance, 2002; BSR, 2002; CSD, 2000

Table 3
Issues in Principle 1 of the Global Compact

Scope	Issues
Workplace	<ul style="list-style-type: none"> • safe and healthy working conditions; • freedom of association; • non-discrimination in personnel practices; • no forced or child labor; and • rights to basic health, education and housing (if operations are located in areas where these are not provided).
Outside the workplace	<ul style="list-style-type: none"> • respect for existing international guidelines and standards for the use of force (UN Code of Conduct for Law Enforcement Officials and UN Basic Principles on the Use of Force and Firearms by Law Enforcement Officials)
The Wider Community	<ul style="list-style-type: none"> • prevent the forcible displacement of individuals, groups or communities; • protect the economic livelihood of local communities; and • contribute to the public debate.

Source: UN, 2001

Preliminary Hierarchy of sustainability issues

From the analysis included in Tables 2a and 2b, it can be seen that the Global Compact provides a platform from which to develop the hierarchy for the sustainability performance assessment of firms. However, there is important overlap in the nine principles of the Global Compact and their sub-criteria meaning that the final hierarchy needs significant processing. A preliminary hierarchy for the assessment of the social performance of a firm, developed from the principles of the Global Compact and input from ETI and SA 8000 is presented below.

The topmost level of the hierarchy is the sustainability performance score. The second level of the hierarchy are the sustainability categories of issues: human rights, labor rights and environmental.

Tables 4a and 4b show the next levels of the hierarchy for human rights and labor rights respectively.

Table 4 a
Human rights

Third Level: Criteria issues	Fourth Level: Sub-criteria
HR1. Protection of international human rights in area of influence	HR1.1 Protect the economic livelihood of local communities HR1.2 Provision of basic health, education and housing (if operations are located in areas where these are not provided). HR1.3 Prevent the forcible displacement of individuals, groups or communities HR1.4 Contribute to the public debate on HR.
HR2. Complicity in human rights abuses	HR2.1 Compliance with international guidelines and standards for the use of force. HR2.2 Business dealings in countries where human rights are violated HR2.3 Discrimination

Table 4 b
Labor Rights

Third Level: Criteria issues	Fourth Level: Sub-criteria
LR1. Freedom of association and effective recognition of the right to collective bargaining.	LR1.1 Recognition of freedom of association LR1.2 Recognition of the right to collective bargaining LR1.3 Promotion of Freedom of association and the right to collective bargaining in Trade Organizations and countries of operation
LR2. Forced and compulsory labour.	LR2.1 Bonded labor or debt bondage LR2.2 Demands of financial deposits from workers LR2.3 Involuntary work of prisoners
LR3. Child Labor	LR 3.1 Compliance with minimum age laws and international conventions regarding the work of minors LR 3.2 Elimination of exposition of young persons to hazardous or demeaning working conditions LR 3.3 Promotion of the elimination of the exposition or utilization of all persons under the age of 18 to the worst forms of child labor LR 3.4 Sponsor child remediation programs
LR4. Discrimination with respect to employment and occupation	LR 4.1 Discrimination in hiring LR 4.2 Discrimination in occupation, training, advancement LR 4.3 Discrimination in remuneration and benefits
LR5. Health and safety	LR 5.1 Provision of safe and healthy working conditions LR 5.2 Provision of health and safety training LR 5.3 Availability of first-aid kits and trained first-aid personnel LR 5.4 Arrangements for emergency medical services

3. Issue prioritization

The banana producers are a weak link in the chain and they are suffering pressures from their buyers to improve their social and environmental performance (Bragg Kevin, Bonita Europe, Private Communication, December, 2001, Guayaquil). In the developing world, some high level managers of banana producing countries feel that some of the issues that the first world buyers demand from developing world producers are out of touch with the realities of these countries. These differences in views of the importance of the sustainability issues between the Developed World buyers and the Developing World producers is an issue that needs to be tackled in the prioritization process. Duque-Rivera and Noonan (2002) have broadly proposed that a process to establish priorities among the issues needs the participation of experts and stakeholders from both

sides. The proposed process is a sequential one where the priorities of the developed world buyers are first coded and then the developed world producers determine the actual set of priorities to be used with the above priorities in view.

The authors propose a process where the expertise of the GIN 2002 Conference could be used to determine the developed world priorities. Following Pun and Hui (2001), the AHP framework and scales will be used by means of a questionnaire that will allow participants to fill out their preference by pair-wise comparisons of sub-issues with regards to the issues and those with regards to an overall goal of “high sustainability performance”. Such a questionnaire is in the process of development at the moment. A sample question for comparison of the health and safety issues with regards to the worker rights to health and safety is shown in the Appendix.

Conclusions and Future Work

In this paper the progress made with the development of the first module of a DS Tool to assist companies in the identification of the sustainability performance demands they face, to prioritize them and to develop adequate responses, is presented. The module development is being performed in the context of the banana industry in Ecuador. The development calls for the identification of the sustainability demands and their dimensions, the design and deployment of a process for establishing priorities among the demands, and the design of a system to score performance of the firm in each of the issues.

Using the principles of the UN Global Compact as a platform within an AHP framework a preliminary hierarchy for the assessment of social performance is presented, and a process is proposed for the prioritization of the issues. The proposed process is a sequential one where the priorities of the developed world buyers are first coded and then the developed world producers determine the actual set of priorities to be used with the above priorities in view.

The authors propose a process where the expertise of the GIN 2002 Conference could be used to determine the developed world priorities. A questionnaire for this purpose is under development at the moment. The questionnaire will include questions to classify the respondents as it is expected that industry people, academics, NGO’s representatives and consultants may have different and clustered opinions. The nationality of the respondents and their current country of residence will be asked in order to classify the responses by region of the world (developed and developing regions).

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Appendix

Sample question for priority setting

Using the information of Table 4b a sample question for the right of workers to health and safety in the workplace may take the following form³.

What is the relative importance of the provision of safe and healthy working conditions and the other issues that you would consider in rating a firm's performance with regards to the rights of workers to health and safety in the workplace?

Please compare the issues and circle your answer using the following scale: 1=Equal; 3=Moderate; 5=Strong; 7=Very strong; 9=Extreme

	← Increasing Importance	Increasing Importance →	
provision of safe and healthy working conditions	9 8 7 6 5 4 3 2 1	2 3 4 5 6 7 8 9	Provision of health and safety training for workers
provision of safe and healthy working conditions	9 8 7 6 5 4 3 2 1	2 3 4 5 6 7 8 9	Availability of first-aid kits and trained first-aid personnel
provision of safe and healthy working conditions	9 8 7 6 5 4 3 2 1	2 3 4 5 6 7 8 9	Arrangements for emergency medical services

³ The authors adapted this sample question from the example provided in Pun and Hui (2001)

Figure 1

Hierarchical structure

