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BUILDING TIES IN A STRATIFIED SOCIETY: A social networking simulation game

By An Ansoms and Sara Geenen

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ABSTRACT:

BUILDING TIES IN A STRATIFIED SOCIETY is a collective game which allows participants to experience how different social classes face both opportunities and constraints in securing their livelihoods through the construction of social networks. Participants receive a knot with six strands (length depends upon their social stratum) and connect themselves with others by tying their strands to each other. A score is calculated for each participant, dependent upon the type of connections he/she was able to establish. Connections with better-off categories have a higher value than those with poorer categories. The resulting network and the scores of the participants are analyzed during the debriefing. The game allows participants to critically assess the ways in which different societal classes (also those at the lower end of the societal scale) exercise 'agency' in the construction of their networks, although this agency may be constrained in various ways.

KEY WORDS: SIMULATION, NETWORKING, SOCIAL CAPITAL, SOCIAL STRATIFICATION, POVERTY, INEQUALITY, DEVELOPMENT STUDIES

Basic Data

Learning objectives: To illustrate how different societal classes exercise 'agency' in the construction of their networks although this agency may be constrained in various ways.

Simulation-game objective: Each participant represents a household head belonging to a particular social stratum (five in total from extremely poor to extremely rich) in a rural village located in some developing country. Each participant receives a knot with strands, with the social stratum determining length of strands. Participants engage in a collective process in which they construct a social network by tying strands to each other. Participants gain 'points' for each connection (higher scores for connections with better-off categories, lower scores for connections with poorer categories). The objective of the game is to use the available opportunities (strands) as optimally as possible.

Debriefing format(s): Open discussion, with possible individual written assessments

Target audience: Students of and persons interested in social sciences, economics, development studies, and similar disciplines

Playing time: between 50 and 60 minutes (including 20 minutes of preparation, between 20 and 30 minutes to build the network, and 10 minutes to register the information)

Debriefing time: 30 minutes

Number of participants: between 10 and 50

Introduction: Poverty, agency, and social networks

Despite the seeming consensus in development studies that poverty is a complex and multidimensional process, it has traditionally been conceptualized in a quantitative way on the basis of aggregate well-being variables, which are often scaled down to income or consumption measures. Micro-level (household) studies registering such data have often nurtured an image of ‘the poor’ as passive marginalized victims (De Haan and Zoomers, 2005). Bebbington, however, sees people’s assets, “not simply [as] resources that people use in building livelihoods; [they] give them the capability to be and to act” (Bebbington, 1999: 2022). According to Moser (1998), “the poor are managers of complex asset portfolios”. And social actors have different management styles and thus diverse strategies in dealing with their assets, even when departing from comparable starting positions (De Haan and Zoomers, 2005).

People are thus the subjects of their own development and able to shape their own destinies. Although some are more deprived and constrained in their options and strategies, they nonetheless remain active players who have different choices and are capable of making their own decisions. This idea approximates Sen’s notion of agency, which he esteems as central in valuing human life. Sen introduced the concept of “agency freedom,” defined as “what the person is free to do and achieve in pursuit of whatever goals or values he or she regards as important” (Sen, 1985). The notion of agency is relevant in all social experiences, even in case of extreme coercion. Agency determines and is determined by the person’s access to strategic resources; it is embodied in social relations, closely linked with power relations and shaped through institutional structures (Long, 2001).

Building and maintaining social networks is of crucial importance in securing access to productive assets and livelihood strategies. The social capital literature emphasizes the ability of actors to secure benefits from membership in social networks. These social networks provide a flexible framework for shared information, solidarity, trust and norms of reciprocity. In other words, they facilitate “collective action for mutual benefit” (Woolcock, 1998:155) and are considered to enhance economic efficiency. Some authors even regard social networks as alternative forms of social and economic organization independently of the state (Powell, 1991). Social capital can then be conceptualized as assets emanating from social ties in networks. Cleaver (2005: 893) differentiates between bonding ties (“strong ties between immediate family members, neighbors and close friends”), bridging ties (“association between people of different ethnic, geographical, and occupational backgrounds, [...] seen as more important in terms of ‘getting ahead’”), and linking ties (connections that “promote interests with people of influence in institutions”). Social actors invest in these social relationships in order to get something in return, such as access to strategic resources.

BUILDING TIES IN A STRATIFIED SOCIETY is partly inspired by a game developed by Groves, Warren and Witschger (1996). The Groves et alii simulation game illustrates how resources get distributed through social networks; and how minorities versus majorities may be (dis)advantaged in the elaboration of their networks. We deviate from the majority-minority perspective of Groves et alii; and adopt a more complex socially stratified system - based upon the societal structure of a subsistence peasant-based society in a developing country. Our game allows participants to critically assess the ways in different societal classes face both

opportunities and constraints in securing their livelihoods through the construction of social networks.

Facilitator's Guide

The simulation pictures a situation in which household heads of various socio-economic classes (extremely rich, rich, better-off, poor, and extremely poor) have to build a social network. The purpose of the exercise is to improve participants' understanding on the diverse opportunities and constraints that various social classes in society face in securing their livelihoods. The social stratification used in the simulation is based upon the rural context in some developing country, mainly characterized by small-scale subsistence agriculture.

The simulation can be played with groups of various sizes (between 10 and 50). The number of participants per socio-economic class depends upon the total group size (see table 1). The facilitator should know the exact group size in advance.

Table 1: Division of participants over different social classes

Number of participants	10	20	30	40	50
Extremely rich	1	1	1	1	1
Rich	2	3	4	5	6
Better-off	2	5	7	10	13
Poor	3	7	12	16	20
Extremely poor	2	4	6	8	10
Number of potential connections	45	190	435	780	1225
Number of possible connections given number of available strands	30	60	90	120	150
Time provided to build the network	20min	25min	25min	30min	30min
Total playing time (incl. preparation and registration of network) *	50min	55min	55min	60min	60min
Time for debriefing	30min	30min	30min	30min	30min

* For larger groups, the facilitator can add additional time to explore some of the options explained below.

Remark: The number of *potential connections* gives an indication of the number of connections that could potentially be established between all participants. In the game, the options are however limited given that all participants only have a certain number of strands. The number of *possible connections* indicates the maximal number of connections that can be established throughout the game. The actual number of connections may be lower when participants fail to connect all their strands.

The game requires an open space where participants can freely move around. The following materials are needed:

- Labels in 5 different colors to identify the social class of the participant. Colors provide a visual aid, allowing participants to quickly differentiate between poorer and richer players during the building of the network. The labels mention the category of the player and the points that can be gained by establishing a connection with this player: (5) extremely rich, (4) rich, (3) better-off, (2) poor, (1) extremely poor (see table 2). For large groups or groups in which players do not know each other, names of participants are also put on the label.
- A knot with six loose strands for each participant. The length of the strand depends upon the social layer of the participant (see table 2). The facilitator can opt for giving the knots of each socio-economic layer different colors (not

obligatory). All participants get a sheet with information and instructions on how to play the game.

- The facilitator makes sure he/she has an overview sheet in which the constructed network can be registered quickly (which player makes a connection with which other players + their categories). For larger groups, players will register their established network (+ allocated points) themselves.

Table 2: Type of strands and points allocated for different social classes

Social layer	Length of strands	Original game		Variants	
		Number of strands	Points gained when establishing connection with this player *	Number of strands	Points gained when establishing a connection with this player **
Extremely rich	3m	6	5	3 thick 3 thin	7 for thick 5 for thin
Rich	2.5m		4		6 for thick 4 for thin
Better-off	2m		3		5 for thick 3 for thin
Poor	1.5m		2		4 for thick 2 for thin
Extremely poor	1m		1		3 for thick 1 for thin

* The player can connect him/herself with maximally three strands to the same category. The other connections should be made with people of another category. If more than three connections are made with people of the same category, zero points are allocated for that connection.

** Points for thick connection are only allocated if both parties used a thick strand to connect themselves. If one person uses a thin strand and another person a thick strand, then points for thin strands are allocated to both participants.

Participants are first briefed on the goal and procedures of the simulation (approximately 20 minutes). In an initial stage, all participants are asked to spread themselves around the classroom. They all receive a label, mentioning their category and the number of points that can be gained by making a connection with this player; 5 for 'extremely rich', 4 for 'rich', 3 for 'better-off', 2 for 'poor', and 1 for 'extremely poor' players (see table 2, original game). The labels must be prominently displayed, so that all can clearly see the social status of each participant in the simulation. He/she then hands out a knot with strands to each participant. The particular socio-economic layer to which the participant is assigned determines the length of strands (see table 2).

Participants then engage in the physical building of a network (time depends upon group size, see table 1). The objective of the simulation is to build an extensive social network that will facilitate the participant in securing his/her livelihood. Social ties may give people access to resources and strategic opportunities; but they may also provide a social safety net when being confronted with setbacks. Participants connect themselves with others by tying strands (two participants can only be connected through one tie). A participant can connect him/herself maximally three times with his/her own socio-economic category (no points will be allocated for more than three connections with the same category). The facilitator gives participants a sign when only ten minutes are left to build the network.

After time has elapsed, the facilitator stops the construction of the network. He/she then registers for each participant: 1) with whom he/she is connected, 2) the number of points gained through these connections; 3) only for alternative game: whether he/she used a thick or thin strand for this connection. For groups larger than 20 participants, an assistant facilitator is recommended.

Participants' Guide

You live in a rural village in some developing country, in which the main economic activity is subsistence agriculture. In an initial stage, you are asked to spread yourselves around the classroom. You all receive a label, mentioning the socio-economic layer you belong to, and the points one can gain by establishing a connection with you: (5) extremely rich, (4) rich, (3) better-off, (2) poor, (1) extremely poor. Write your name on the label and wear it prominently. You should be able to clearly see the social status of each participant in the simulation. You will receive a knot with six strands; the length of strands in your knot depends upon your social layer.

Extremely rich

Profile: This person is rich in terms of monetary revenue, he owns a lot of land (more than five hectares), possesses cattle, and generates a revenue from paid employment as a civil servant or in trade. This person has savings at an official bank. His prosperity has stimulated him to move to an urban center, but he occasionally visits the village and still has his farm there.

Opportunities and constraints in social networking: The 'extremely rich' person receives a knot with six strands of three meters. This gives him/her a lot of freedom of movement when establishing the network. The player can connect him/herself with maximally three strands to the same category. The other connections should be with people of another category, or no points will be allocated. Other participants may gain five points by establishing a connection with the 'extremely rich'. This makes him/her a very interesting partner to connect to.

Rich

Profile: The rich in this context have reasonably large farms. They produce sufficient food for their family and are able to sell surpluses on the market. They engage in cash crop production, own some livestock, and have some savings. They often employ other people as agricultural laborers on their property. In some cases, they lend out livestock to poorer categories, therefore, being connected to them is very important for poorer categories.

Opportunities and constraints in social networking: The 'rich' person receives a knot with six strands of 2.5 meters. This gives him/her a lot of freedom of movement when establishing the network. The player can connect him/herself with maximally three strands to the same category. The other connections should be with people of another category, or no points will be allocated. Other participants may gain four points by establishing a connection with the 'rich'. This makes him/her an interesting partner to connect to.

Better-off

Profile: This category of farmers produces enough to be self-sufficient and may sell some surpluses on the market. They sometimes employ other people on a temporary basis. They may have their own business, often a small-scale off-farm activity. They have a small income (e.g., from selling the surplus, or from the off-farm business activity) to pay school fees or health-related expenditures. However, these households do not have a large cash reserve. They may own some livestock, mostly small livestock and maybe a cow.

Opportunities and constraints in social networking: The 'better-off' person receives a knot with six strands of two meters. This gives him/her some freedom of movement when establishing the network. The player can connect him/herself with maximally three strands to the same category. The other connections should be with people of another category, or no points will be allocated. Other participants may gain three points by establishing a connection with the 'better-off'. This makes him/her a somewhat interesting partner to connect to.

Poor

Profile: Households falling in this category are poor. In good seasons, they have sufficient land to produce food for their own family. When confronted with bad climatic conditions or crop diseases, they are obliged to work for others to gain an additional income, generally on richer farmers' land, or in off-farm businesses of better-off categories. These households do not own large livestock, although they may look after a cow for a better-off or rich peasant. They may own some small livestock or some chicken. They have no savings or financial reserves. As a result, they face difficulties to cover health or education-related expenditures. Unforeseen crises may push them into a state of chronic poverty.

Opportunities and constraints in social networking: The 'poor' person receives a knot with six strands of 1.5 meters. This limits his/her freedom of movement when establishing the network. The player can connect him/herself with maximally three strands to the same category. The other connections should be with people of another category, or no points will be allocated. Other participants may gain two points by establishing a connection with the 'poor'. This makes him/her a less interesting partner to connect to.

Extremely poor

Profile: Households in this category are very poor. They own too little land to produce enough for their own family. They are obliged to work for others to gain additional revenue. These jobs are often on a temporary basis and are badly paid. People in these households are involved in a daily struggle to find small jobs and have little time to invest in social networking activities. Furthermore, extremely poor households have no large livestock; they may own some small livestock or guard a goat for peasants from higher categories. The people falling into this category generally do not have access to health care or schooling.

Opportunities and constraints in social networking: The 'extremely poor' person receives a knot with six strands of one meter. This considerably limits his/her freedom of movement when establishing the network. The player can connect him/herself with maximally three strands to the same category. The other connections should be with people of another category, or no points will be allocated. Other participants may gain one point by establishing a connection

with the ‘extremely poor’. This makes him/her a rather uninteresting partner to connect to.

When everyone is ready, the facilitator gives the start signal, after which participants have between 20 and 30 minutes - dependent upon the group size – to connect themselves to others. By the end, some participants may be left with untied strands after the available networking time has elapsed. This represents how they missed out on an opportunity to strengthen their network.

Variants

A more complex variant of the game

In an alternative version of the game, the players have both thick and thin strands (three of each). Thick strands symbolize the ambition of the participant to connect him/herself with a strong tie to the other person. Thin strands symbolize the ambition of the participant to connect him/herself with a weak tie to another person. With this alternative version, there are several possible connections that can be made between two participants:

- **Connection between two thick strands:** If two participants agree to use a thick strand to symbolize their connection, this means that they invest in a strong tie with each other. This relationship has greater social value than a connection between two thin strands, or between a thick and a thin strand. Both players gain two additional points (see table 2).
- **Connection between a thick and thin strand:** A combination of a participant using a thick strand, and another one using a thin strand, represents a situation where the one with the thick strand tries to invest in a strong tie but - given the limited investment of the other party - is in the end only connected through a weak tie with this person.
- **Connection between two thin strands:** Two thin strands indicate that both participants aim for a weak tie with each other.

Variants when playing with large groups

In case of large groups, the facilitator can elaborate on the function of the network in securing one’s livelihoods through the following additions to the game. This exercise should start with all participants sitting down.

The facilitator could pick out a random participant of the rich or extremely rich category, presenting this person as having been approached by an NGO that is willing to invest in a local development project. The rich person will function as a broker between the NGO and the local community. The first ones in line to profit from the project, are those directly connected to the rich participant (direct ties, let them stand up). The second ones in line to profit from the project, are those connected to the people who are connected to the rich person (indirect ties, let them stand up). Calculate how many people of each category are represented among the beneficiaries of the project. This exercise illustrates how local brokers may play a crucial role in who is included in or excluded from externally induced interventions. It is likely that this exercise also illustrates that development projects often reach better-off categories

more easily than poorer classes (because they are less often connected to the crucial brokers in a local setting).

Alternatively, the facilitator could pick out a random participant of the better-off category, explaining that this participant has started his/her own business and is looking for workers. The participant considers employing all those who are connected to him/her (direct ties), and all those connected to the people who are connected with him/her (indirect ties). Let them stand up. This exercise illustrates the importance for poorer categories to invest (directly or indirectly) in vertical ties with categories at the higher end of the societal scale.

Furthermore, the facilitator could pick out a random participant of the poorer category. This poorer person will start up a tontine (rotating savings association) with other poor participants of the same category, only including those with whom he/she is connected directly and indirectly. This exercise illustrates the importance for poorer categories to invest in horizontal ties. People at the higher end of the societal scale will not be interested in participating in a tontine with poor people, whereas the extremely poor are unable to participate due to a lack of means. The exercise can be repeated with other poor participants, each time counting the total number of participants who will take part in the tontine.

In case of playing the more complex variant of the game, the facilitator could pick out a random participant of the poorer category. This person is sick and should be transported to the hospital on a stretcher. The only people willing to do this are people of the same or a lower socio-economic category that are connected with this participant through a strong tie. As one needs four people to carry the stretcher, it may be possible that not enough persons are found. Therefore, the already found 'volunteers' can also approach their own network of strong ties with participants of similar or lower socio-economic status (those connected indirectly with the sick person). This exercise illustrates the importance to invest in a strong horizontal network that may function as a safety net in case of unforeseen setback.

Debriefing

To begin the debriefing, the facilitator can present a visual representation of the network but this is not necessary. The facilitator calculates the total average score, the average scores of each category, and the score of each participant. These provide the basis for a discussion. The following are some of the topics you should look at in the final debriefing:

1. The outcome of the simulation game

- Have a look at the outcome of the simulation game, and the scores of participants of different social classes. Are all rich and better-off participants scoring well? Are there any poorer participants who have been able to obtain relatively good scores? What about the extremely poor players?
- Ask participants whether this was the outcome they had expected.

2. Strategies used during the network construction

- Ask participants how they evaluate the negotiation process that took place during the network construction. What kind of strategies did they adopt? Did their strategy change throughout the game? Was their strategy efficient?
- Ask participants whether they took care to invest both in horizontal and vertical ties. For the alternative game: ask whether they adopted a different strategy for the use of their thick strands in comparison to their thin strands.
- Ask participants whether they would adopt another strategy than the one they did, knowing the outcome of the game.

3. Opportunities and constraints of different strata in network construction

- Ask participants what the game has brought out on the opportunities and constraints that different social strata face in the construction of their network. Discuss which impact this has on people's ability to secure their livelihood.
- Discuss with participants whether and how poorer categories were able to exercise agency in the simulation.
- Discuss the strengths and weaknesses of this simulation.

A written debriefing can ask the participants to write an individual reflection, considering:

- the ties they were able to make with other participants. With whom (and from which socio-economic stratum) were they connected? Are there any strands left untied? Why? For the alternative game: what kind of tie was established (strong through combination of thick strands or weak through combination of thick-thin or thin-thin strands)?
- the evolution of the simulation. Did participants adopt any particular strategy while constructing their network? Did that strategy change throughout the game (e.g. comparing initial stage of the game when few connections were made, with later stage of the game when fewer possible connections were left)?
- the negotiation processes taking place during the network construction. Were they turned down by anyone when asking to make a connection? Did they turn anyone down when being asked to make a connection? Why?
- their assessment of the quality of their established network. Are they satisfied with the network they constructed, given the opportunities available and constraints imposed upon their socio-economic category?
- their assessment of the usefulness of the exercise.

Reflecting upon their strategies in the debriefing, participants will likely explain how they first tried to link up with categories at the higher end of the societal scale. Poorer categories will probably express their frustration because they tried their best to network but were regularly turned down. In a first phase, it are therefore mostly horizontal ties (between people of the same category) that are established. Later in the game, participants' strategy will change and people of different categories will start to connect (vertical ties). At the end of the game, some participants will most likely not have used all their connections due to lack of time. This will be due to the fact that they spent too much time on trying to establish vertical connections in the beginning of the game.

If having played the more complex variant of the game, participants may observe how the chances for establishing the connection by tying two thick strands (and each player gaining two additional points) are higher in case of establishing a horizontal connection. Higher classes will be reluctant to 'waste' their thick strand on a connection with poorer classes (despite the fact that it does not make a difference in terms of gained points). If having played variants for larger groups, participants will likely point out how this exercise illustrates the importance of different types of ties - both direct and indirect, both horizontal and vertical - to profit from particular opportunities or to overcome distressful situations.

Conclusion

The game illustrates how all participants in the game have agency in the establishment of a network. However, the game inserts two types of constraints for poorer classes. First, their status as 'poor' or 'extremely poor' makes them a less favorable party in the network construction of better-off categories. Fewer points can be gained by establishing a connection with poorer categories. Second, they are restricted in their movements due to the limited length of their strands. Certainly when already linked to some people, the limited length of their strands will bother them in negotiating over new connections. The fact that the poorer categories have shorter strands represents the real-life situation in which these peasants are so much occupied with finding small income-generating activities, that they do not have a lot of time to move around and invest in social networking.

In previous experiences with the networking game, my students appreciated the game because it "shows how poor people have limited opportunities"; "the poor are both physically and symbolically restricted in their movements". This made students realize how important networks are in getting access to resources, and "how difficult it is to trickle down effects to the poor through such networks". The network simulation helped students to experience this from first hand. On the other hand, participants also experienced how poorer social classes still exercise agency. This was especially clear during the debriefing phase when participants could compare their individual scores to the average score of their own and other categories. Overall, the social networking simulation game is an interesting pedagogical tool in teaching students about poverty, agency and social networks in a development context.

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An Ansoms is a lecturer at the Université Catholique de Louvain, Belgium. She holds a PhD (University of Antwerp, Belgium, 2009) in economics. Her research interests include social capital, poverty & inequality, and the political economy of the Great Lakes Region in Africa. She teaches courses on poverty and development issues, in which she integrates various simulation games.

ADDRESS: Université Catholique de Louvain; e-mail: an.ansoms@uclouvain.be.

Sara Geenen is an assistant at the Institute of Development Policy and Management (University of Antwerp - Belgium). She is working on her PhD in Development Studies on local actors and global interests in gold exploitation and trade in South Kivu (DRC). She coordinates simulation games in several courses.

ADDRESS: Institute of Development Policy and Management, University of Antwerp, Antwerp, Belgium; telephone: +32 (0)3265-5665; e-mail: sara.geenen@ua.ac.be.

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