Abstract

CENDES COLOMBIA is a centre that seeks the integral human development for forced displaced population caused by civil conflict in the country. This centre is meant as a Learning Community where cooperative, participatory and trustworthy relationships arise. This paper efforts have been put up to showcase the analysis of the social networks among its beneficiaries, and its incidence in the intervention process in order to identify possible areas for improvement to strengthen the effectiveness of the emancipation process. The methodology involves document reviews, interviews, and the use of the UCNet software for the social network analysis or SNA formulation. Key features of the CENDES beneficiaries, such as connection strength, degree of intermediation, degree of separation, and degree of centrality are discussed, showing as results that people associated to this process is connected with a low density in the entire network created, but with a greater tendency to clustering, reflecting teamwork. Four of the thirty five people in the network show leadership characteristics, particularly in "power for" to exercise authority "deserved" for their high sense of cooperation. Overall, the average degree of centrality of the network shows that tends to exist homogeneity in the position of all nodes in the network, presenting no marked hierarchies and facilitating communication processes; it is likely that taking out some node of the network, the network flow is affected. These results can complement processes in the development centre based on the roles and importance of key people within a process.

1. Introduction

The internal conflict in Colombia is one of the most extensive and complex in the international history, bringing many consequences such as the phenomenon of displacement. The Government estimates that there are about five million Internally Displaced People in the country. Aware of the need to develop strategies to deal with this
situation, the project CENDES becomes a process of social intervention that focuses on a platform of comprehensive services for families living in displacement, which seeks to provide reconstruction and reorientation of the life project of each person. The CENDES model encourages individual and collective learning in their beneficiaries, becoming a Learning Communities model that seeks to coordinate all projects around proposals that lead to integral human development. This research aims from social network analysis to explore this intervention model as practice space that is as a learning community, where relationships of dialogic nature arise between people who achieve a change in the way they perceive the world, becoming emancipated beings and active members of society.

2. Research Problem

According to the Internal Displacement Monitoring Centre (IDMC) in 2012 at least 256,590 people were displaced in Colombia as a result of violations of the rights of the civilian population by armed groups, and the insufficient relevant protection measures from government. According to the Consultancy for Human Rights and Displacement historical figures, the cumulative forced displacement victims in Colombia amounted to 5,701,996 between 1985 and 2012. Annually about 211,178 people have been displaced within the country and for the past 15 years this average rose to 296,988 people.

However, it is important to note that those living forced displacement are normal people in abnormal situations. They do not form a homogeneous class. People cannot assign them, therefore, essential behaviours. It is rather to understand their practices and processes within a social context, which undergo abruptly and forcefully changes for the war (Castillo, 2005).

CENDES Development Centre created as an alternative for the care of these families living in displacement seeks its social, labour and cultural claim. To achieve its objective CENDES has developed a comprehensive development model that seeks to strengthen the psychosocial condition of each person to allow greater participation and empowerment in the reconstruction of their life project. In this model of intervention, it has developed the concept of learning communities, which raise the "world building" from the positive transformation of relations between people and practices that make up the community through communication experiences and the joint construction of new spaces of action.

The interest arises about the nature and characteristics of the relationships created from this model of intervention through social network analysis which involves theories, models and applications that are expressed in terms of relationships defined by links between units. The focus on relationships requires analytical concepts that are different from traditional statistical methods. The unit of analysis in the network is not the individual but the system consisting of a collection of individuals and the links between them (Wasserman & Faust, 1999).

3. Learning Communities and Human Development

A condition that limits the possibilities of enhancing the latent energy of the people in the social areas in our time is the difficulty of building community. The community involves first, explicit relationships between persons and then, that these relations are cooperative, trust and solidarity (Lleras, 2002). Thus, learning communities through their intervention process, emerge as suitable space to achieve integral human development, viewed not only as economic development, but through the appropriation of human values that have a change in mentality of its beneficiaries, making them aware of their "being in the world".

4. Method

The model followed to answer the research question is shown in figure 1:
Information Type. For the construction of the network, actors and the type of relationship between them must be known. The actors are the individuals who have been beneficiaries of different programs of CENDES; in the type of relationship between them, teamwork reference is made.

Sample Selection. Because network methods focus on the relationships between the actors, they cannot be sampled independently. If an actor becomes selected, it is necessary to include all actors with whom he has relationships (Hanneman & Riddle, 2005). In this investigation it was decided to select the non-probability sample method "Snowball", which focuses on an actor and its ties with other actors and so on, until to obtain the desired sample size.

Collection of Information. This process was carried out within two months. The collection was conducted through surveys made to people defined as the sample.

5. Results and Discussion

5.1 Social Network Analysis

For the network modelling was used the specialized software in social networks UCINET. The network obtained with a total of 35 individuals is shown in figure 2.

Density. In order to determine the connectivity of the network, it was decided to calculate the density. This shows the relationship between the number of existing connections and the maximum number of possible
connections. The average density of the network is 7.76%, which shows that not all actors are connected and that the number of relationships is very little between all actors in the network compared to those that might exist; this can be attributed to the network asymmetry and only took into account the relations explicitly stated by the actors.

- **Degree centrality.** This indicator shows how central is a person with respect to those around him and across the network. For the interpretation of this indicator is necessary to focus on the most relevant actors taking into account the degrees of input and output. These nodes are divided into source nodes, receiver nodes, and powerful nodes.

### Table 1. Degree Centrality of the more relevant actors

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<th>Actor</th>
<th>OutDegree</th>
<th>InDegree</th>
<th>% Out</th>
<th>% In</th>
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<td>001</td>
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<td>7</td>
<td>23.007</td>
<td>17.949</td>
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<tr>
<td>008</td>
<td>5</td>
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<td>006</td>
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<td>8</td>
<td>12.821</td>
<td>20.513</td>
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<tr>
<td>004</td>
<td>3</td>
<td>8</td>
<td>7.692</td>
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In this case the source node is the actor No. 001 for her high OutDegree, plays an important role at the time of transmitting information to all members of the community. Receivers or prestigious nodes correspond to the actors No. 008, 006, and 004, which are known people in the community for their willingness to teamwork. The supernode or more powerful node is one that is recognized and sought after by other players and also exerts power and control over the information, in this case the person who most resembles these features is the actor 001, which is a logical response due to its role as a community leader.

### Figure 3. Descriptive statistics of Degree centrality

Figure 3 shows the general indicators of the whole network. The average grades for both outbound and inbound is about 3, this indicates that on average an actor communicates with 3 players. It can be seen that there is no significant difference between these values, which reflect the homogeneity in the position of all nodes of the network, hence dissemination of communication within the community is not by few people and relationships are not concentrated in a few, but are distributed throughout the network.

- **Betweenness centrality.** This indicator denotes people who are in the network in a privileged position where, because of its location, are bridges between other actors, that is to say, these are the people that other people must go through to achieve communication with the other members of the network. The node 001 and 032 have the highest degree of intermediation with 21.586% and 20.439% respectively, meaning that they have the most control over the communication that flows through the network.

- **Geodesic distance.** This indicator shows how close are some actors to others, taking into account that there may be many connections between two actors in a network. In the event that an actor needs to send a communication with some urgency, it will choose to send the information via the shortest path to the target in order to arrive quickly and without distortion. The average geodesic distance between the accessible actors (length of any
actor to any other actor) is 3.144, concluding that on average each actor is 3 degrees of separation from the other actors that are in the network. This number indicates that it is relatively easier than any actor within the network establish a relationship with any other actor, get to know or have a reference for possible projects together. Furthermore, the diameter of the network was calculated to observe how big is this, knowing clearly that this item is the longest geodesic length in the network. The network diameter is 7, which leads to the conclusion that no actor is located more than 7 steps. In 7 steps, it is possible to traverse the network from one end to another end, implying that in the case of needing to transmit information, it will come to all actors in the network in 7 arches.

- Clustering. A cluster or clique is a subset of actors who are more strongly connected to each other than they are with other actors which are not part of the group. The division of players in cliques or subgroups is a very important aspect of the social structure and helps to understand the behavior of the network as a whole. Figure 4 shows the eight subgroups found with a minimum number of four players in a subgroup.

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Fig 4. Cliques Found

It can be seen that there are several groups with actors in common, which means groups share overlap; mobilization and diffusion can spread quickly throughout the network. In order to extent to which these substructures overlap, and which actors are most "central" and most "isolated" from the cliques, "co-membership" is examined.

In co-membership matrix, five completely isolated actors are observed; other actors who do not belong to any clique are: 002, 003, 007, 010, 018, 020, 021, 022, 026, 027, 028, 031, 033 and 034. Moreover, actor 008 overlaps four of the eight cliques formed, which means that it is a member of several groups, which helps connect them by its co-membership. Nodes 008 and 011 are "close" in the sense of shared interests in three of the eight cliques.

5.2 Human values

The "Personal Profile Values" survey of Schwartz (2012) was applied to determine the value system of the people in the network after the intervention of CENDES. This intervention specifically aims to strengthen the human development of the beneficiaries with recovery of individual, family and corporate values, in order to improve their living standards and form new citizens.

In figure 5 the overall results of measurement are shown for each of the values. It can be seen that human values with the highest averages correspond to: security (which refers to harmony and social stability in the different relationships), universalism (in this value is important tolerance, social justice and the protection and welfare of all people and nature), and conformity (where social norms are valued, and behaviours that may hurt others avoided). According to the classification of human values by Schwartz (2012), security is part of mixed interests, where collectivist aspects (values that prevail in a society have to do with serving the interests of the entire community), and individualistic aspects (those aspects that have to do with personal development and success) are valued. The values of conformity and universality are part only of the collectivist interests. On the other hand, human values with lower average are: stimulation (which applies to any new stimulating action that involves challenges), power (reflects the interest in achieving social power, authority, wealth and prestige), and finally, hedonism (pleasure and personal gratification to enjoy life are important).
Values referred as determinants of human development, in terms of autonomy, awareness and self-care are: benevolence, universalism, self-direction, achievement, conformity and security. The measurements obtained for these values are the highest. From these values, the achievement though has the lowest average, gets a score of 4 ranking above average (the highest possible score is 6). Values not deliberately sought in the process of emancipation are: stimulation, hedonism, power and tradition. It should be noted that these values present the lowest scores.

6. Conclusions

- CENDES proceeds as a learning community in terms of offering dialogic practical spaces for its beneficiaries. The practice spaces are offered through various projects: housing construction, business incubation, education, leadership training, social management training, and school construction; and its comprehensive services platform: literacy, psychosocial support, health services, food assistance, business training and loans, among others.
- The Social Network built on this research shows a low density, reflecting little cohesion between all the actors. This is given by the relationship chosen to conduct the study, the reference to teamwork makes the links forming the network not so uniformly distributed, on the contrary tend to form subgroups (clusters) with strong ties. Some of the eight cliques formed in the network, are a youth organization, a shoe factory, and an advertising company.
- According to survey results, the relationships formed in the social network are characterized by cooperation (ability to take collective tasks, with the the group welfare as the main objective); trust (attitude of hope, expecting to achieve common goals through the participation of all members of the community); and solidarity (value by which people recognize themselves together, sharing the same obligations, interest and ideals).
- It is noteworthy that among the 5 people with higher averages in measurement values, there are 3 people (001, 004 and 006) that were listed in the network analysis as prestigious nodes by their high degree centrality and betweenness.
- The social network analysis is a powerful tool for knowing data of any type of network, but framing research with relationships that go beyond the merely physical to a highly meaningful relationships, it can lead to very useful results that help improve social processes. In particular, the results of this study may help to improve the CENDES model and can be replicated to similar centres.
References


