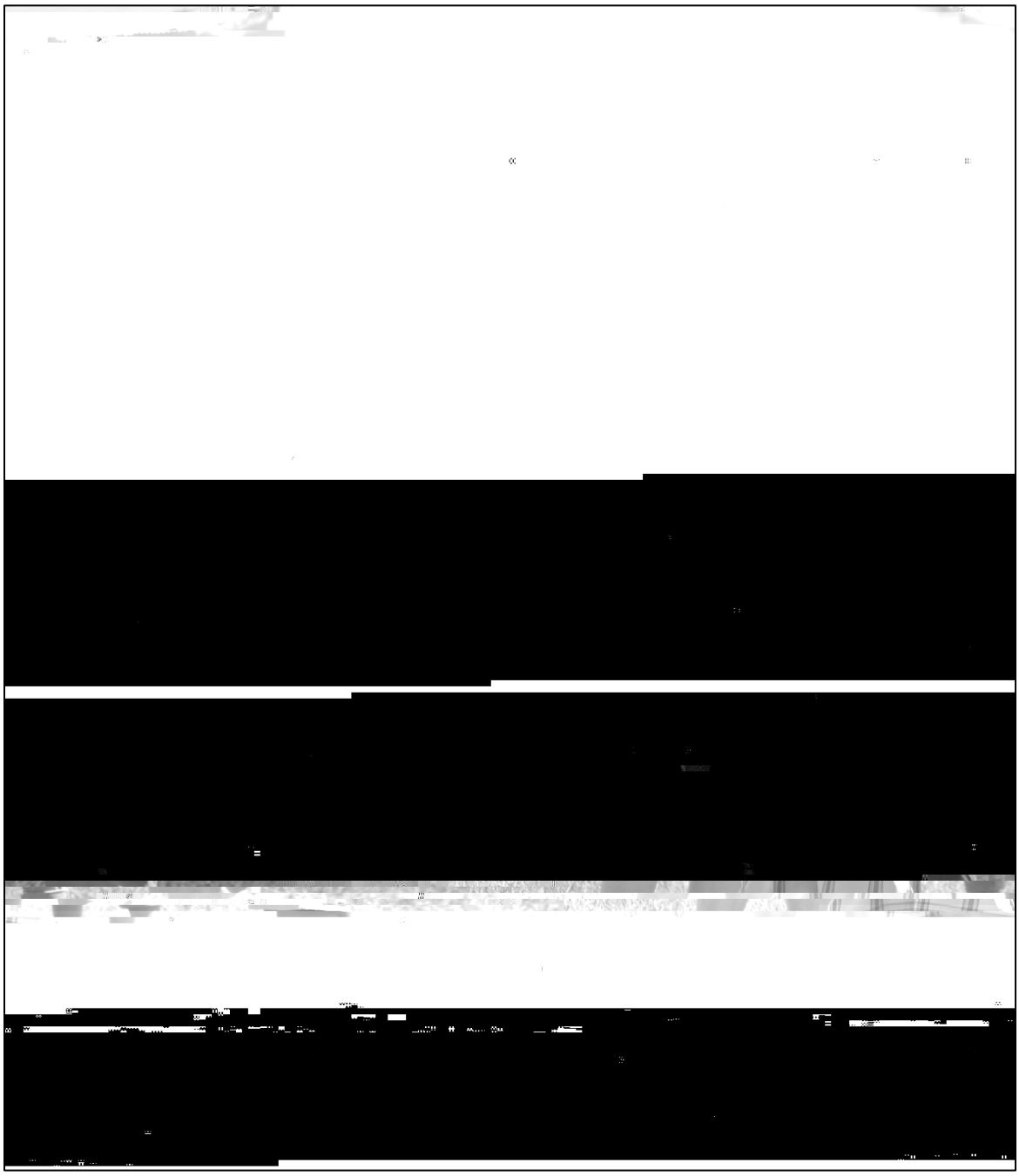
# REPORT OF THE ETHNOGRAPHIC FIELD SCHOOL IN BELIZE (SUMMER 201 9)



CENTER FOR APPLIED ANTHROPOLOGY, NORTHERN KENTUCKY UNIVERSITY

Table of Contents

Acknowledgements

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Jerry Barnaby, Executive Director
Cooperative Center for Study Abroad
Western Kentucky University
Tate Page Hall, Room 104
1906 College Heights Blvd
Bowling Green, KY 42101 USA
info@ccsa.cc
001- 270 - 745 - 2231

Rolando Cocom, Senior Research and Education Officer
Institute for Social and Cultural Research
National Institute of Culture and History
Corner Constitution Drive
Belmopan City, Belize, Central America
rolando.cocom@nichbelize.org
011- 0822 - 3307

Nigel Encalada, Director
Institute for Social and Cultural Research
National Institute of C4 Tc 0.002 Tw -20.74 -1.21 Td [(N)-6 (a)-3 (tio)-7 (n)-1 (a)-3 (l I)-13 (n)-1 (s)-3 (t)-

Denise Knisely, Lecturer (On-site Administrator)
Sociology, Anthropology & Philosophy
Northern Kentucky University
1 Nunn Drive, Landrum 216
Highland Heights, KY 41099, USA
kniselyd1@nku.edu
001-859-572-6359

Antonio Novelo
Jungle River Tours
20 Lover's Lane
Orange Walk Town Belize, Central America
lamanaimayatour@btl.net
011-501-670-3035

We also appreciate the aid of Sarah Hume for editing drafts of this report, although any errors still contained within are our own.

## Introduction

This report documents the findings of the Ethnographic Field School in Belize organized by the Center for Applied Anthropology (CfAA) at Northern Kentucky University (NKU) in Orange Walk District, Belize, during summer 2019. Ethnographic interviews were conducted within the communities of San Lazaro, San Pablo, and Yo Creek in cooperation with the Sugar Industry Research and Development Institute (SIRDI), Belize Sugar Cane Farmers Association (BSCFA), Progressive Sugar Cane Producers Association (PSCPA), and the three communities within which interviews took place. This field season's research focused on the following topics: child labor, traditional medicine and health concerns, drop in price of sugar cane , fair trade community investment , climate change, organizations, and networks of information sharing . This report presents the preliminary findings of the 2019 field season and recommends what research questions should be pursued in the next field season.

## Background

Since the literature review was written for last season's report (Hume et al. 2019 ), there have been several scholarly publications related to this field school's research. Several articles have been written on social and cultural factors in environmental conservation: 1) the environmental impact of milpa farming on forested areas (Dexler 2020), 2) the impacts of highway construction on community infrastructure and environment (Haines 2018), 3) the impacts that climate change will have on agricultural practices (Haines 2019; Requena, Garcia, and Vasquez 2020), and 4) the relationship between wildlife conservation and farmers (Shapiro, Willcox, Tate, and Wilcox 2020). Research has also been published on family involvement in their elementary school children's education (Garbacz, Hall, Young, Lee, Youngblom, and Houlihan 2019) and how urban life may be contrasted with village life (Troccoli 2019). Two articles examined the pact of tourism, on issues of race and gender (Johnson 2020) and the other on coastal dev elopment (Vitous and Zarger 2020). In response to the recent Zika virus, Gray and Mishtal (2019) examined government interventions and community responses to the epidemic. Finally, Chibnik (2020) used his experience in Belize to discuss issues of ethics in participatory research.

Methods

As in previous field seasons, upon arrival in the villages of San Lazaro, San Pablo, and Yo Creek, Antonio Novelo (Jungle River Tours) introduced the field school members to village council representatives and assisted Douglas Hume in explaining our collaborative research project to gain local approval for our presence in the community. Each village council gave their permission and was supportive of our efforts. We presented printed copies of last year's report to the councils of San Estevan, San Lazaro, San Pablo, and Yo Creek (Hume et al. 201 9).

Participants of the field school (Abigail Burbank, Miranda Kaplan, Musseit M'Bareck, Jordan Myers, Madalyn Roberts, and Edward Stephens ) as well as the Belizean student interns (Lydia Alvarez, Julia Arzu, Christian Cansino, and Christy Valdez) conducted house - to - house interviews in a census sampling methodology. The Cooper ative Center for Study Abroad hired Antonio Novelo (Jungle River Tours) as the field school's land agent. He served as both as cultural liaison and research assistant during field research. Mr. Novelo explain ed our general purpose and introduce students to community members. Students would then present the informed consent statement in both English (Appendix I ) and Spanish (Appendix II) and upon agreement to take part, have the informant sign a copy (on file) and offer an unsigned copy for the informant's records.

Interviews were conducted on the informant's property (e.g., porch, house, et cetera) with a pair of students, one serving as the primary interviewer and the other as observer. The standard method used for this research was the ethnographic interview (Spradley 2016), which is informant centered (Levy and Hollan 1998) rather than interviewer centered. Interviews were from five minutes to an hour in length, depending upon the informant's time constraints and willingness to be interviewed by the students. Ideally the interview would flow naturally from topic to topic and would end when the interviewer or the informant

perceived a natural stopping point or when the informant no longer seemed comfortable or interested in continuing the interview (Levy and Hollan 1998).

All informants were asked about education support sources, child labor issues, traditional medicine and health concerns, sugar cane price drop, fair trade community investment, and climate change perceptions and effects (see Appendix III: Ethnographic Interview Schedule [Procedure], Part I). Self-identified sugar cane farmers were additionally asked about sugar cane organizations and networks of information sharing (see Appendix III: Ethnographic Interview Schedule [Procedure], Part I. Students digitally recorded interviews and took field notes during and directly after each interview.

Upon return from the field, data from each interview were aggregated and analyzed. After analysis, the digital audio recordings were securely erased. Douglas Hume then conducted both statistical and network analyses as well as wrote this field report.

Community Development

Demographics

A total of 321 informants were interviewed: 96 (29.9%) in San Lazaro, 107 (33.3%) in San Pablo, and 118 (36.8%) in Yo Creek. The median age of the informants was 40 years with a minimum age of 18 and maximum age of 85 years old. Forty-five percent of the informants were male and the remaining 55% were female. Of the 321 total informants, 65 (20.2%) self-identified as sugar cane farmers.

Child Labor

During the prior field season, informants were asked about the appropriate age for each type of child labor collected during the preceding season (Hume et al. 2019). This field season, we asked community members if they thought children should work, what were the reasons that children worked, and what could help keep children from working. Of the 321 informants, 139 (43.3%) responded that children should never work, 103 (32.1%) responded that children should work, 63 (19.6%) responded that children should only work in certain circumstances, and 16 (5%) did not answer. For those informants that responded that children should never work, their reason was that children should stay in school because education is important. Those informants that responded that children should work explained that working would teach children responsibility and life skills that they can apply to their future careers and that working keeps children out of trouble. For those informants that responded that children may work under certain conditions most commonly listed working to support an extremely poor family or being a young father/mother and having to support children as necessary reasons for children to work. Some also suggested that safe part-time jobs during school vacations were appropriate for older children. When asked what could possibly reduce child labor, informants most

commonly suggested educational financial aid, better paying jobs for parents, and community programs to keep children busy (e.g., organized sports and clubs).

In the next field season, we will continue to have conversations with community members about child labor, with an emphasis on how families are responding to financial hardships they have suffered due to the COVID-19 pandemic.

Traditional Medicine

In previous field seasons, several informants spoke about traditional medicines that they used for kidney disease and other ailments. After a discussion with Hugo Carillo (U Chan Muul Yaax K'aax [Maya Community Museum in San Lazaro]) about the preservation of local traditional medicine knowledge preservation during the second week of the field school, we began asking informants about the traditional medicine remedies that they use. In our discussion with informants, we collected ingredients used in traditional medicine, but our collection of each use of the components resulted in unclear data. Informants have reported that the most common ingredients for traditional medicine include oregano, lime, aloe, honey, garlic, sable, and soursop. Many informants were confused by the wording of the questions about "traditional" medicinal ingredients. In the next field season, we will rephrase questions and focus on acquiring information on the medicinal use of materials not acquired through the pharmacy rather than "traditional" medicines.

The most common ailments that informants listed as treatable by traditional medicine included high blood pressure, fever, cough, pain, stomach ailments, vomiting, diabetes, kidney disease, and cuts. In comparison, informants reported that they were most concerned about dengue, diabetes, fevers, cancer, malaria, garbage, blood pressure, and access to medical care. The concern about the distance to medical care was more prominent in San Lazaro and San Pablo than it was in Yo Creek. In the coming field season, we will continue to speak with information about the ailments that they are concerned about and how these are treated.

Sugar Cane Price Drop

As with the previous three field seasons, informants were asked about their preparation for and impact of the continuing drop in prices for processed sugar cane, which results in less income for sugar cane farmers. Of the 321 informants, 76 (23.7%) reported that the drop in sugar cane prices has not affected them. A few of these informants explained that they were not affected because they were not sugar cane farmers. The remaining community members (245, 86.3%) reported that they have been affected by a drop in sugar cane prices. The most common response to decreased discretional spending is consistent with previous field seasons. Community members predict that they would buy fewer non-essential items, diversify their incomes, and would not be able to pay off loans. Though the answer has been consistent over time as the sugar cane price continues to drop, the informants are not reporting a more precise or clearer plans to mitigate what is becoming a chronic issue for the farmers. Over several years of research,

well as information sharing networks. Of those 65 farmers, 27 (41.5%) in San Lazaro , 23 ( 35.4%) in San Pablo, and 15 (23.1%) in Yo Creek. The median age was 53 years with a minimum age of 30 and maximum age of 85 years old with 67.3% being male and 22.7% female. The farmers were members of either the Belize Sugar Cane Producers Association (59, 90.7%) or the Progressive Sugar Cane Producers Association (6, 9.3%). There were no members of the Corozal Sugar Cane Producers Association in our informant sample.

Perceptions of Sugar Cane Farmers' Organizations

In prior field seasons, community members were asked about the roles of sugar cane farming organizations , both in open- ended questions and structured questions for each organization. During this field season, the 65 sugar cane farmers were asked about farmer's association meetings and activities. Farmers most commonly reported that they do not attend the meetings . The reasons for why they do not attend the meetings is twofold. The first barrier tnibty meeting.7 (ng thi)-0.8 ()-4.8e -4.718

Industries/American Sugar Refineries [ BSI/ASR ] , and sugar board) . Data were then analyzed using UC INET (Borgatti, Everett, and Freeman 2002) and Netdraw (Borgatti 2002). Demographic variables such as age, sex, home village, and farmers association membership appear to have no effect on which sources of information farmers use. Additional characteristics of the farmers will be collected during the next field season do determine what characteristics of the farmers may affect information sharing.

The sociograms/network diagrams ( Appendices V through IX) were constructed with the following parameters:

1. node and label size are by degree prestige/indegree centrality (node size is determined by the number of inbound arcs/connections where the larger node size is an indication of more connections);
2. node color indicates source of information (blue) and individual farmer (red , with anonymized informant code ); and
3. layout is based on no de repulsion and equal edge length bias adjusted for readability.

The following are explanations of the network diagrams (Appendic es V through I X) listing the sources of information which farmers use to access information about sugar cane farming. The explanations are presented in order of frequency reported.

- Informants reported that they gain information about fertilizer from (in order of frequency)

The findings from these network analyses are as follows:

1. farmers within our sample acquire the most information about sugar cane farm fh for each subject (( f)1.2 .e., fertilizers, herbicides, pest( f)1.2 c( f)1.2 des, and sugar cane varieties) from the Belize Sugar Cane Farmers Assoc( f)1.2 at( f)1.2 on;
2. both the Sugar Industry Research and Developmnt Inst( f)1.2 tute and other famrs share the second most common source of informatin for farmrs in our sample ;
3. the store/supplier is more important for herbicides that it is for pesticides and fertilizer as a source of informatin—f armers do not seek information about sugar cane varieties from stores/suppliers ;
4. the sugar board is not as prominent of a source of informatin as the BSCFA, SIRDI, other farmers, or stores/suppliers, but is stil an important source of information for several farmers for each subject of informatin ;
5. the village chaian, PSCPA, CSCPA, and ASR/BSI have the fewest farmrs receiing information from them —during interviews it was common for a farmr who mentined one of these people/groups to have had a long-standing relatinshi with that group or person (e.g., friends with the village chaian, mmber of PSCPA, and emoye of ASR/BSI); and
6. the comexityf this problem requires further data collection and analyis.

In the next field season, farmers will agai be asked who theynformatin from about fertilizers, herbiides, pesticides, and sugar cane varieties allowing farmrs to respond that theyceie information from more than one source and that there may addional sources of information . In additin, the farmrs will be

## Conclusion

This report documents the findings from the summer 201 9 season of the Ethnographic Field School in Belize. This field season successfully met the goals of collecting ethnographic data on topics suggested by community members and prior research: community development (i.e., child labor, traditional medicine, sugar cane price drop, fair trade monies, and climate change ) and sugar cane farming (i.e., sugar cane organization perceptions and sugar cane farming knowledge transmission ). There were mixed responses to our questions about child labor, the majority of informants either not work at all or only under certain conditions and not full -time. We will continue to discuss child labor with informants in the coming field season, but with an emphasis on the financial impact of the COVID -19 pandemic. We were able to collect additional information on traditional medicine, but much of our data is unclear. In the coming field season, we will focus on non-prescribed remedies in hopes of recording knowledge that is fading from the community. While the price of sugar cane products continues to decline, the effects upon the communities have not been fully felt and both farmers and other community members are still grappling with their options for a secure future. In place of asked directly about dropping -0.005 Tc (s)-3.7phasmedies[(c)-.7 (l)-0.8 (l)-0.7 ( gto)-4.7 (Td ( )Tj -0.00

Appendix I: Informed Consent Statement Đ English

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Appendix II: Informed Consent Statement Đ Spanish

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Appendix III: Ethnographic Interview Schedule (Procedure), Part I

<u>All Informants</u>

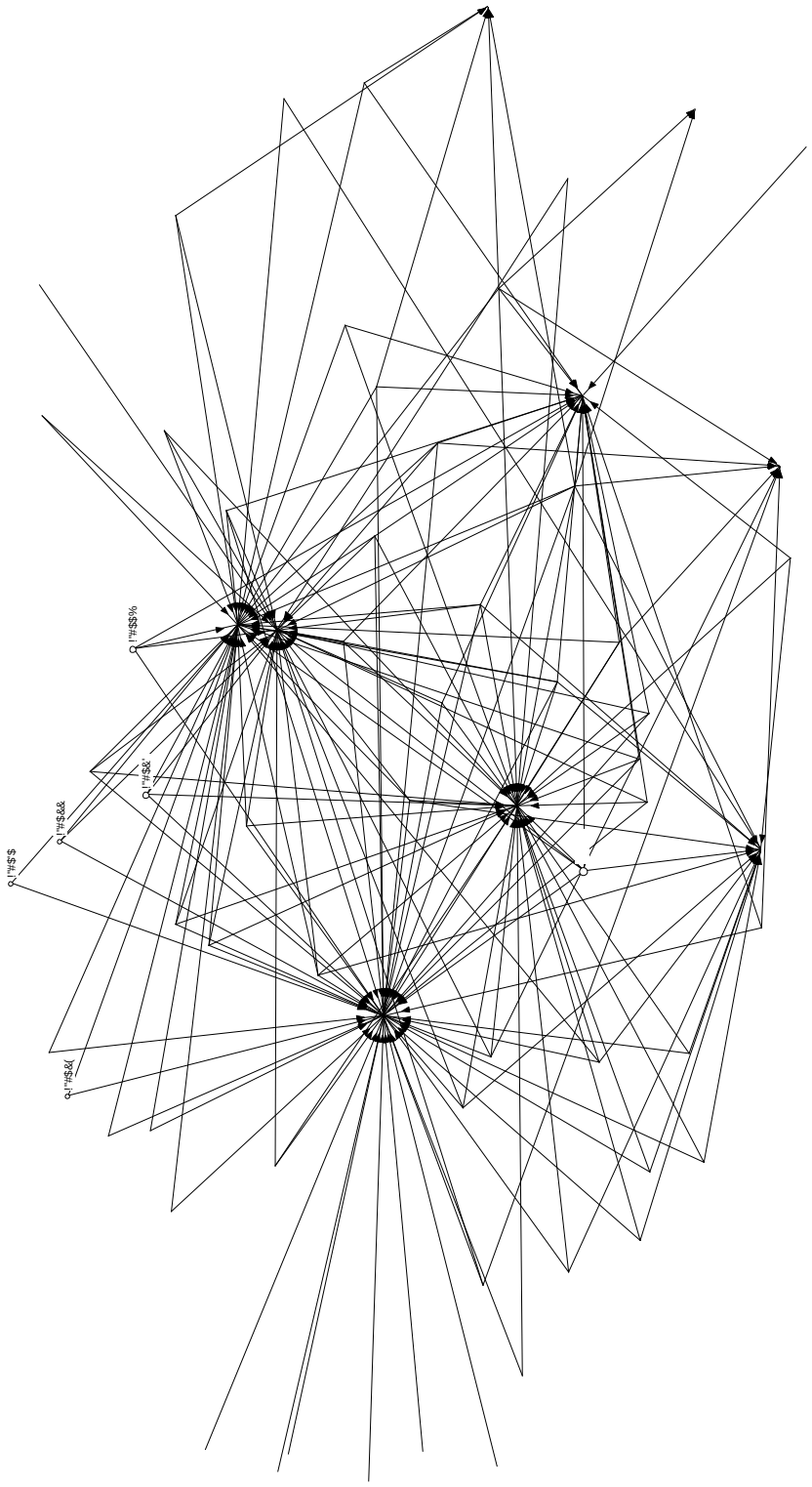
1.! Note approximate age and sex
2.! Educational support - Free list types and amounts
3.! Child labor
   A.! Should it continue?
   B.! If so, under what circumstances?
   C.! What support/programs would help?
4.! Traditional medicine -

Appendix IV: Ethnographic Interview Schedule (Procedure), Part II

Farmers Only

1.! Organizations
    A.! Membership (i.e., BSCFA, CSCPA, PSCPA)
    B.! Non-attendance reasons
    C.! What do they want from?
2.! Ego-centric information networks
    A.! Sets
        i.! Fertilizer
        ii.! Herbicide
        iii.! Pesticide
        iv.! Sugar cane
    B.! Entities
        i.! Farmers
        ii.! BSCFA - Belize Sugar Cane Farmers Association
        iii.! CSCPA - Corozal Sugar Cane Producers Association
        iv.! PSCPA - Progressive Sugar Cane Producers Association
        v.! SIRDI - Sugar Industry Research and Development Institute

Appendix V: Fertilizer (Degree Prestige/inDegree Centrality)





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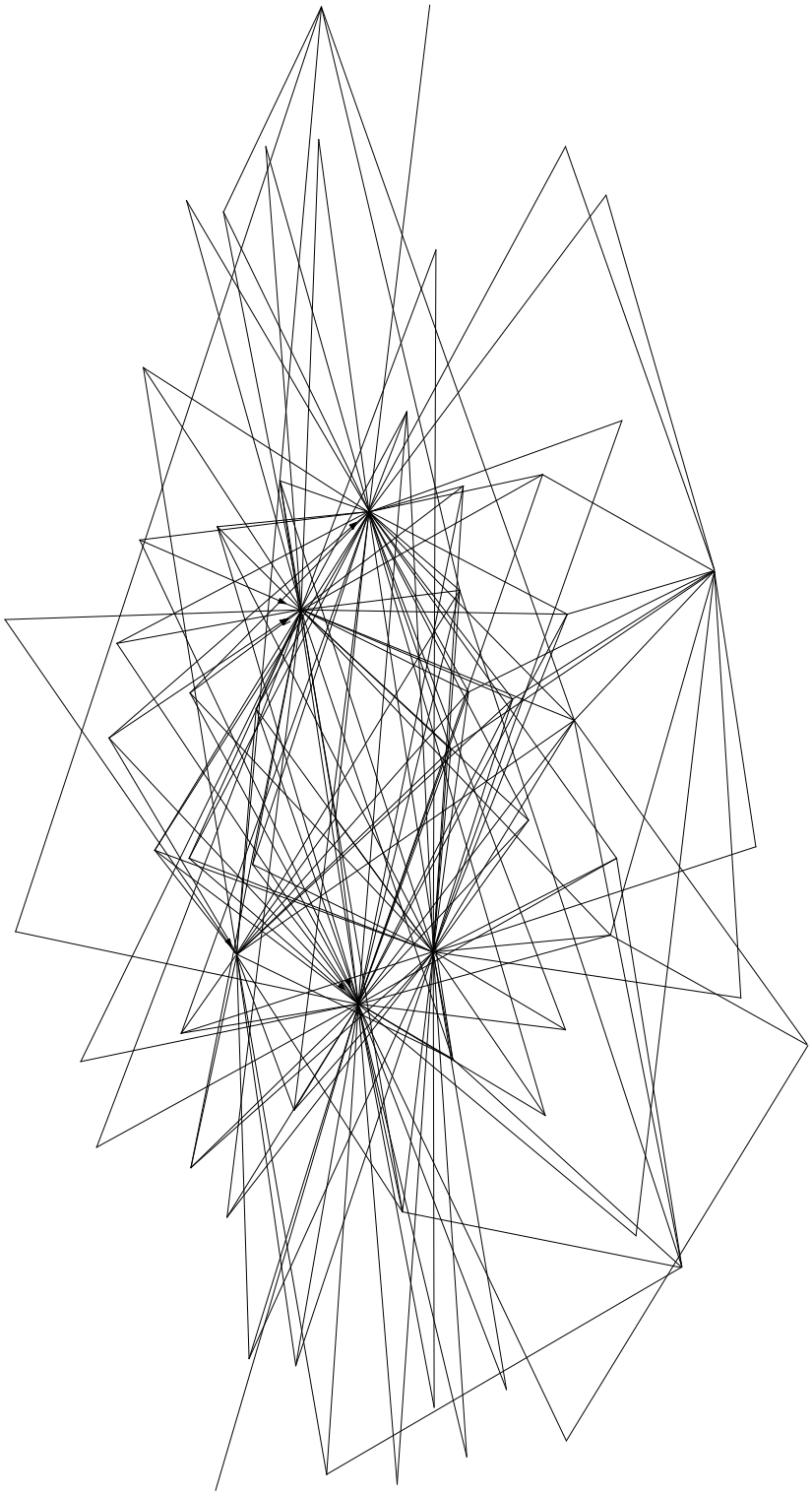
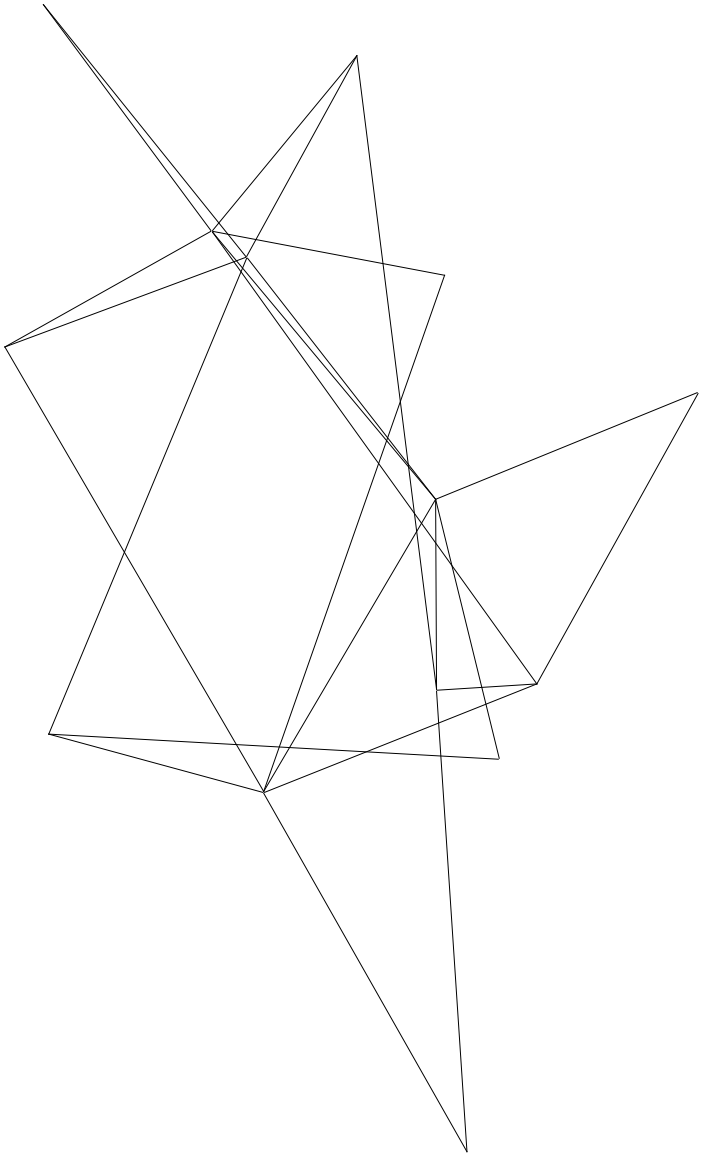
Appendix VI: Herbicide (Degree Prestige/inDegree Centrality)



Appendix VII: Pesticide (Degree Prestige/inDegree Centrality)



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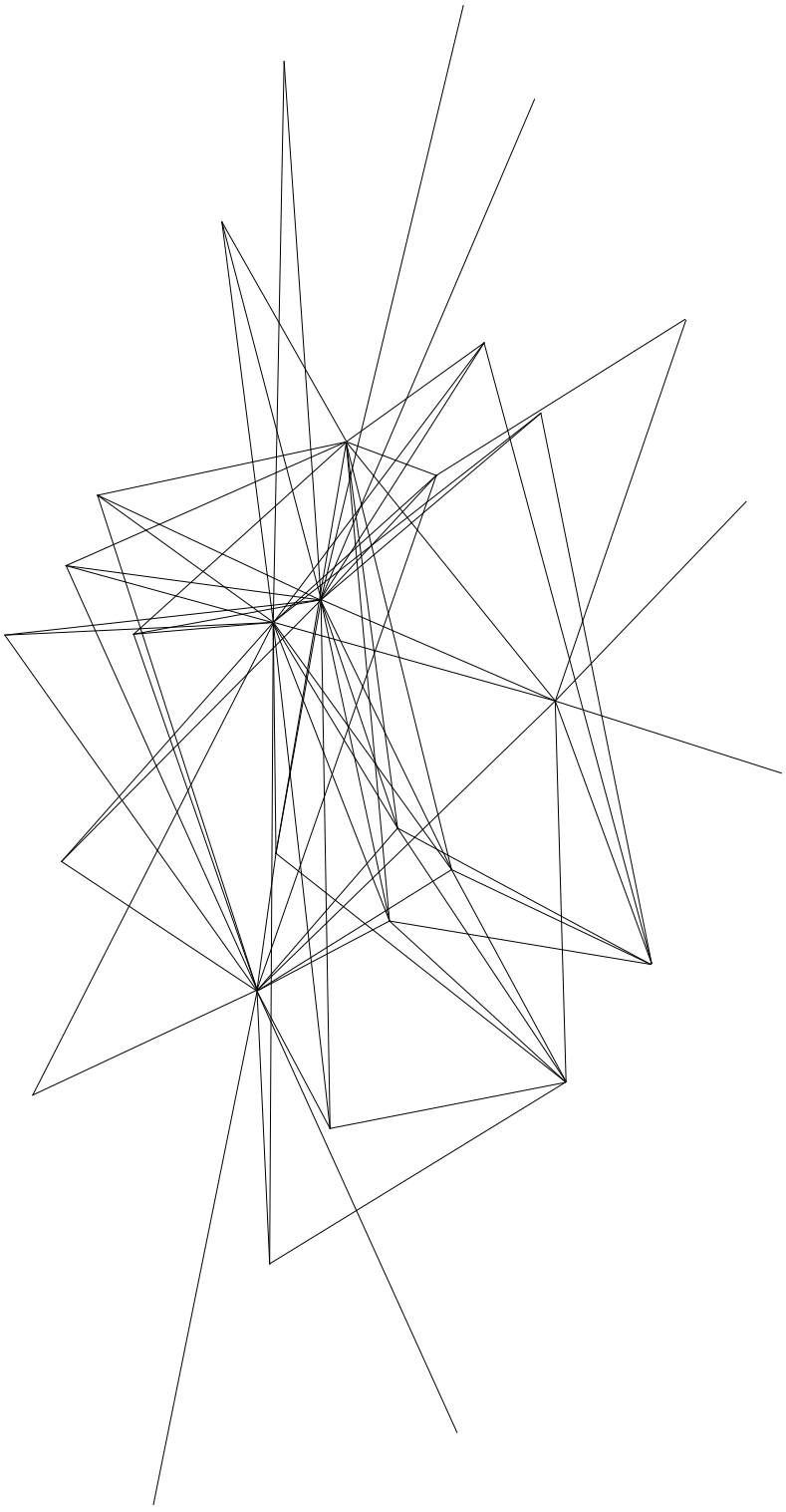
Appendix VIII: Sugar Cane (Degree Prestige/inDegree Centrality)



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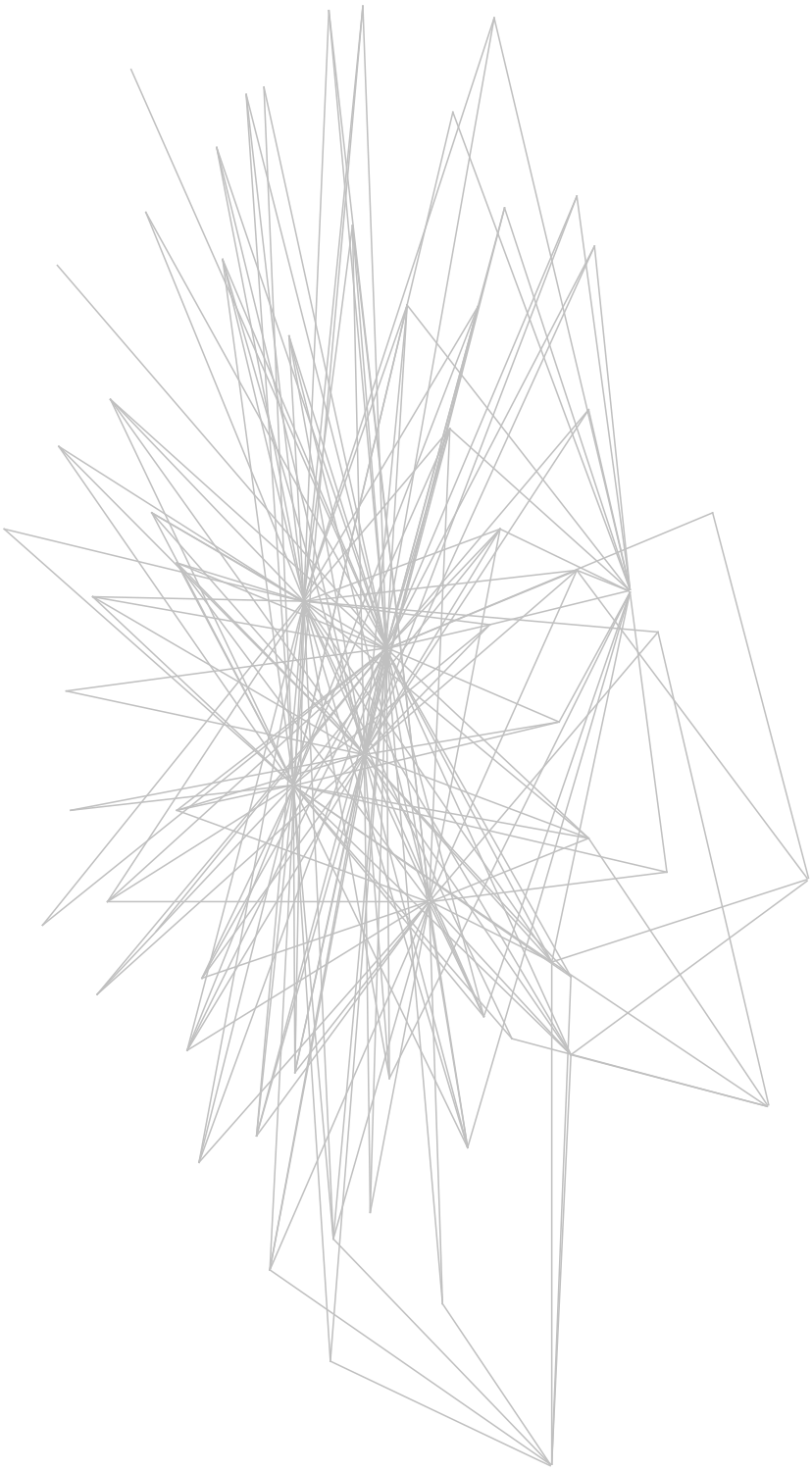
Appendix IX: Full Model (Degree Prestige/inDegree Centrality)



Appendix X: Additional Topics

| Count | Item |
|---|---|
| 22 | Alcohol/drug use |
| 21 | Crime in village (violence, theft, and contraband) |
| 20 | Educational aid |
| 14 | Youth programs |
| 13 | Garbage disposal |
| 11 | Concerns about our data, how we help |
| 10 | Job creation |
| 10 | Road Quality |
| 10 | Water supply |
| 8 | Access to healthcare/Village clinic-doctor |
| 7 | Association politics/fair trade monies |
| 6 | Climate change/environmental conservation |

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