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Cover Page Footnote

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Adapting Ripple Effect Mapping to a Virtual Survey Format

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Abstract. Community development projects continue despite the COVID-19 pandemic. Participatory evaluation of these projects is crucial. Ripple effect mapping (REM) is a participatory approach to evaluation that captures coalition and community member perspectives on program outcomes and impacts. In response to COVID-19, the Louisiana State University AgCenter Healthy Communities Initiative adapted REM for online delivery. The REM evaluation was found to be an effective way for community coalitions to reflect on outcomes and impacts and to motivate continued engagement.

INTRODUCTION

Evaluation of Cooperative Extension Service (CES) efforts is crucial to measure outcomes and impacts, inspire those who have worked to accomplish these successes, and advocate for additional resources. Although the COVID-19 pandemic necessitated moving in-person programs and evaluation efforts online, its profound impact on the physical and economic wellbeing of our communities brought the need for extension and community development work to the forefront. Evaluation therefore became even more critical to refocus our priorities and reinvigorate clientele and stakeholders during the pandemic. Online approaches to evaluation have successfully demonstrated the impact of Cooperative Extension's work during the pandemic (Dobbins et al., 2021). Qualitative research and evaluation methods have been successfully adapted to online videoconferencing software (Gray et al., 2020), though the use of videoconferencing software presents challenges in rural areas with limited internet access and speed. This article details our adaptation of one participatory evaluation method to an online survey format during a national emergency.

Participatory evaluation methods empower community members to engage in decisions about the evaluation process, ensuring that the evaluation results serve the needs of stakeholders and the community (Minkler & Wallerstein, 2011). These methods are an important component of the transformative evaluation paradigm, which seeks to promote social justice (Mertens, 2008). Thus, transformative participatory evaluation methods are critical for community-based extension programming that seeks to make lasting change and appropriately address community needs.

Ripple Effect Mapping (REM) is one qualitative method of participatory evaluation. The REM method can be used to document the impacts and unintended consequences of community development efforts and can inspire future movement toward community goals (Chazdon et al., 2017). This occurs through a collaborative mapping session during which participants share program successes that are drawn on a map and grouped into categories according to the Community Capitals Framework (CCF) (Emery & Flora, 2006). The CCF describes seven categories of assets available to communities that may be impacted by community development projects, including built, human, natural, political, financial, social, and cultural capitals.

The Louisiana Healthy Communities Initiative is a community-led process in which Cooperative Extension staff facilitate in-person community forums where residents identify and prioritize strategies for community development through policies, systems, and environmental changes that impact the food system and accessibility of physical activity (Greene et al., 2020). We evaluate the program with REM and follow the principles of the transformative evaluation paradigm in an attempt to promote social justice in the communities involved in the initiative. Beginning in March 2020, restrictions on in-person gatherings due to the COVID-19 pandemic posed a barrier to conducting planned REM sessions. The LSU AgCenter's Healthy Communities coalitions continued to meet virtually, and stakeholders of one coalition in Bogalusa requested that some form of REM session be held despite the pandemic. Stakeholders felt this would inspire participants and continue the momentum of projects despite restrictions on gatherings.

Research and evaluation professionals have demonstrated that REM can be successfully adapted to live, virtual formats. The National Community Resource and Economic Development Indicators Team released a webinar in February 2021 which detailed professionals' methods of adapting REM to online formats using videoconferencing software (Sero et al., 2021). The presenters discussed two adaptations, one synchronous method in which the REM session occurred in real time with the entire group, and one asynchronous method in which participants reported results of paired discussions to an evaluator who then prepared the REM separately and later reviewed the map with the entire group.

In our adaptation of REM, we considered hosting a similar live video conference that would mimic an in-person REM session, but decided the barriers to participation would limit equitable engagement. Poor broadband internet access and speed is an issue in rural areas, and participants may not have been able to fully engage with a video conference session (Lawson, 2020). Instead, we collected participants' perspectives through an online survey and then reviewed the map with participants once the entire map had been developed. The survey allowed all participants to have equal say in the production of the ripple effect map rather than just those participants who had stable internet connections for the length of the REM session, which may have lasted up to 2 hours. In this article, we present our adaptation of REM, which may encourage similar adaptations of participatory evaluation methods.

METHODS

Our approach to REM was drawn from the "web mapping" approach developed by Emery et al. (2015) and later described in *A Field Guide to Ripple Effects Mapping* (Chazdon et al. 2017). We first introduced REM to coalition and community members involved in the project at a virtual coalition meeting, which occurred using Microsoft Teams videoconferencing software. We then sent these stakeholders an email that explained the purpose of REM, described the constructs of the CCF, and included PDF documents that provided a simple, visual explanation of the process and the CCF constructs. The image used to explain the CCF is available in the appendix. The same email included a link to a survey with questions drawn from the "web mapping" approach to REM which asks participants specifically how a project may have impacted each CCF construct (Emery et al., 2015). We conducted the survey using Qualtrics Online Survey Software, a free online software that allows users to create and distribute surveys as well as manage and present survey results.

An important component of REM is a period of appreciative inquiry at the beginning of a session, during which participants pair up to interview each other and reflect on

their successes with the program (Chazdon et al., 2017). The use of a survey precludes any period of appreciative inquiry in pairs. To address this, we structured the survey to begin with the same questions that participants would typically use to interview each other. These questions ask about broad impacts of the program to be evaluated and encourage reflection. The survey questions then narrow to ask about impacts specific to each community capital.

We coded responses to survey questions according to the CCF and then mapped out the responses using mind mapping software (Xmind), which allows for the arrangement of text in various forms to produce maps or diagrams. To give participants an opportunity to add any other impacts and for purposes of member checking, we reviewed survey results and the map with coalition members and survey participants. This member checking process occurred via email, to give those without adequate or reliable internet access a chance to review the map, and also in a live videoconference meeting held using Microsoft Teams, to allow for some group discussion about the map. Both methods of member checking did not result in any additional impacts beyond those captured through the survey.

RESULTS

We collected survey responses from 13 participants who identified 94 separate impacts (Figure 1). Participants reported impacts to every capital in the CCF, but the largest share of impacts affected human capital (25.5%). The least impacted capitals were natural and cultural capital, each representing 8.5% of the total reported impacts. Notable impacts of the coalition's work included the establishment of a Mayor's Wellness Council (political capital), a \$10,000 grant to support a cancer survivorship program (financial capital), the addition of new bike paths and a "farmacy" community garden in the city (built capital), and additional education provided by a "talk with a doc" radio show (human capital).

The map produced through this virtual format resembled maps that were produced via in-person REM sessions held for similar Louisiana Healthy Communities Initiative projects prior to the pandemic. For example, an in-person REM session held with eight participants resulted in a map that included 43 separate impacts (Figure 2).

When we discussed the results of the map produced from survey responses with participants in the member checking meeting, participants agreed with the impacts presented and did not propose any additional impacts. Participants also felt that the map could be a tool to advocate for further funding of the project and to motivate program participants to continue their efforts despite restrictions on in-person gatherings.

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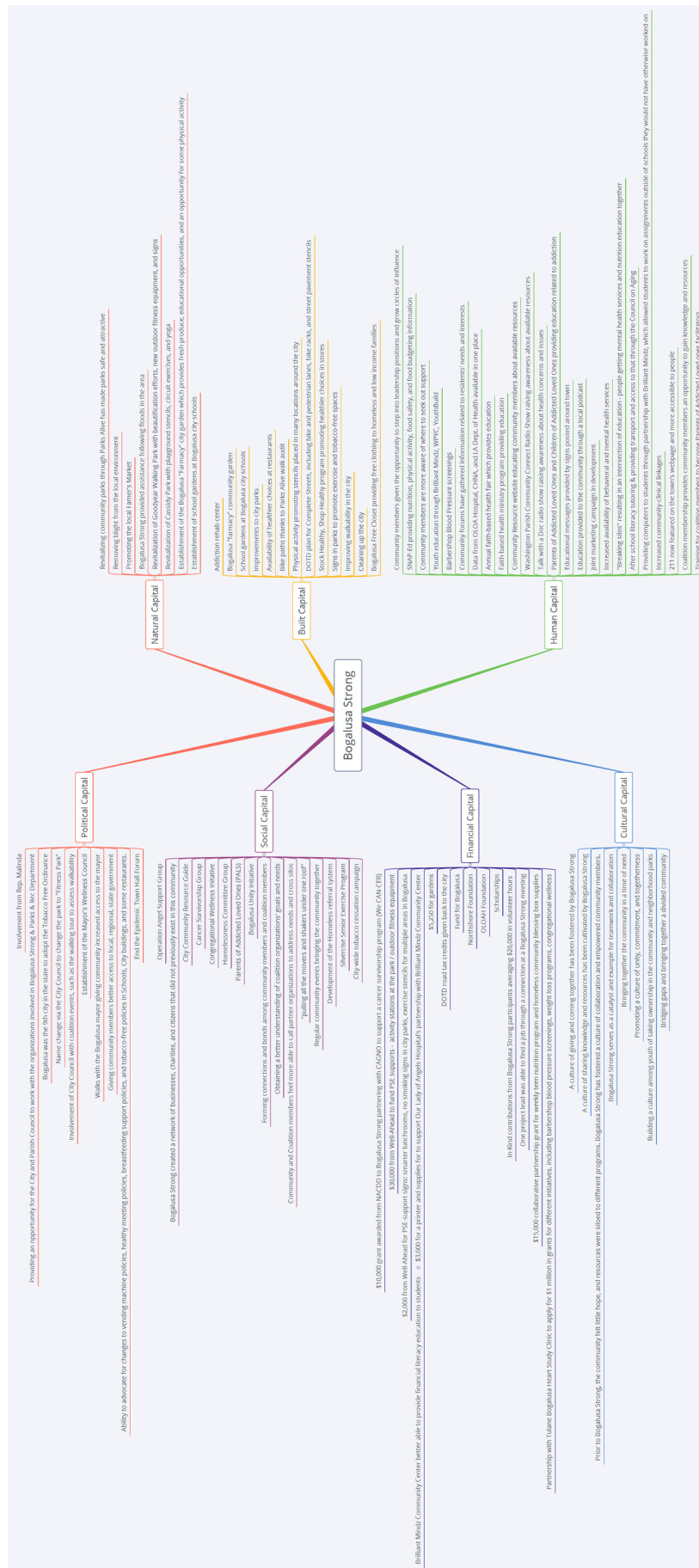


Figure 1. Ripple effect map produced through an online survey.

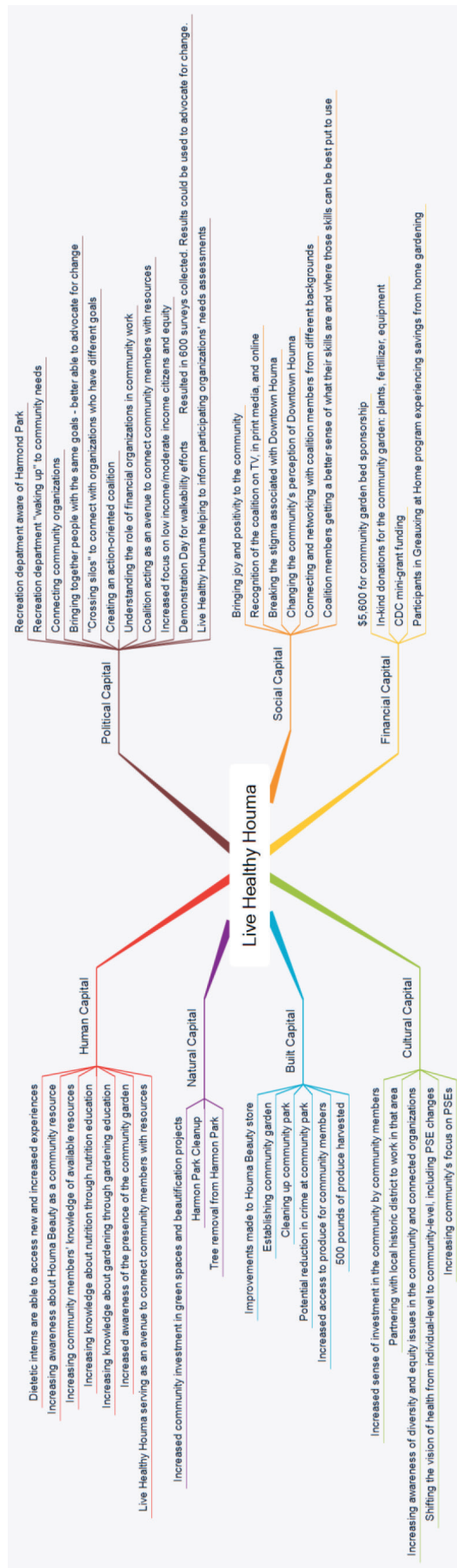


Figure 2. Ripple effect map produced through an in-person mapping session.

CONCLUSIONS

Involving program participants and stakeholders in the evaluation of Cooperative Extension programming leads to evaluations that meet the needs of the participants (Minkler & Wallerstein, 2011). Participatory evaluation can also reinvigorate stakeholders' drive to make change by demonstrating how far a project has come and identifying areas where additional effort is needed (Fawcett et al., 2003). This became especially important during the COVID-19 pandemic, when restrictions placed on in-person gatherings may have hampered Cooperative Extension's efforts at a time of increased community need (Dobbins et al., 2021).

Based on our adaptation of REM to an online survey, there is initial evidence that this adaptation is an effective way to capture impacts of the Louisiana Healthy Communities Initiative during the COVID-19 pandemic. Though this initiative is a community development program focused on improving equitable food and physical activity access, the survey REM technique could easily be adapted to other Cooperative Extension efforts to build evidence for its utility in other contexts.

Compared with other online adaptations of REM, our method did not allow any opportunity for group interaction during the listing of impacts for the map. This is a serious drawback of a survey-only design because one of the advantages of REM is group collaboration in the development of the map. Additionally, this method did not allow for the period of appreciative inquiry which facilitates paired discussion and further engages participants with the REM process. Despite these drawbacks, a survey-only adaptation of the REM process may be appropriate for the evaluation of programs with fewer resources to devote to evaluation. For example, one online adaptation of REM described in the February 2021 webinar required the participation of multiple team members to manage discussion and produce the REM in real time (Sero et al., 2021). Evaluators wishing to adapt REM to a survey-only design will need to weigh the drawbacks of this adaptation with their available resources.

Extension professionals should consider using REM to evaluate program impacts. REM is an important tool to involve stakeholders and participants in the evaluation process, capture qualitative program impacts, and motivate stakeholders to continue work on a project. Our adaptation of REM demonstrates one method of moving this process online that was appropriate for a project with limited resources to devote to evaluation and that served a population with low access to high-speed broadband internet. Extension professionals who wish to implement an online adaptation of REM should consider a survey-only adaptation alongside other methods presented in the Moving Ripple Effects Mapping Online webinar (Sero et al., 2021) that may be more appropriate for projects with a team of evaluation

professionals and in areas with reliable access to high-speed internet.

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APPENDIX: DESCRIPTION OF COMMUNITY CAPITALS FRAMEWORK
PROVIDED TO SURVEY PARTICIPANTS

Community Capital Categories



Natural

Includes natural resources or assets in the community and those in our environment.



Built

Refers to our infrastructure, from the roads we travel on to the towers that support our cell phone service and internet access.



Cultural

Includes our culture - our everyday ways of thinking and doing things. For example, work ethic can be considered cultural capital.



Political

Focuses on policy, laws, and political offices. Also looks at whose voices are heard and respected.



Human

Refers to our health, knowledge, skills, and understanding. Includes self-efficacy or our belief that we can make things happen.



Financial

Includes not only loans and investments but also gifts and philanthropy. Investments in financial capital lead to increases in profits, jobs, and business.



Social

Focuses on connections and relationships. Looks at networks with both strong and weak ties that link us to resources and information.

