



Building Farm and Farm Family Resilience in our Communities

A Guide for Extension Professionals to Engage Strategically

Second Edition

By: Bonnie Braun and Maria Pippidis
Photo provided by: Hank Herrea

ATTRIBUTION

Building Farm and Farm Family Resilience in our Communities: A Guide for Extension Professionals to Engage Strategically

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We stand ready to support you as you begin or expand your efforts to build resilience across individuals, families, farms, communities, organizations, and public policy.

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Cover Photo: Hank Herrera, W.K. Kellogg Class 6 Leadership Fellow, took this photo after a storm on the Wind River Indian Reservation in Wyoming. The building and light pole appear tilted, serving as a reminder that just as some stressors are out of our control, so too are phenomena that bring hope. Hope, associated with resilience, can get us through tough times when life on the farm is tilted and unpredictable.

EXECUTIVE SUMMARY

Purpose of the Guide. To strengthen the ability of Extension professionals to reduce risk and stressors and increase the resilience of farms and farming families within the context of a socioecological framework. The guide was created to help professionals think and act through a research-based, theory-informed, multidisciplinary approach to addressing problems and issues, and creating solutions.

Need for the Guide. As two seasoned professionals who have worked for Extension through at least two other eras of the farm crisis, we believed that stress management was a necessary but insufficient approach for Extension and partners. Our training and programming experiences pointed to the need for additional approaches that addressed underlying problems as well as symptoms of those problems, not just from an individual perspective but from multiple perspectives.

We believed that a socio-ecological approach would not only teach individuals how to prevent and manage stress but look at the role of families, the community, and public policies in positioning the farm and family to be resilient, and at times to engage in the public policy arena. And the approach would be research-based and theoretically sound, resulting in a multidisciplinary, integrated approach to farm and farm family health and well-being.

The 2020 edition of this guide was created to provide a framework for programming that not only informs but moves individuals, families, professionals, and public policymakers to take action to prevent or mitigate sources of stress (Braun & Pippidis, 2020). The need for the original guide grew out of several Extension and research projects, including the USDA-AFRI study, *Health Insurance, Rural Economic Development and Agriculture*, the Extension *Smart Choice-Smart Use Health Insurance* program, and a request from the University of Maryland College of Agriculture and Natural Resources to explain why suicide is so prevalent among farmers.

These projects, involving the authors, were underway at a time when the health and well-being of farms and farm families were becoming headlines in the media and topics of angst for Extension and other professionals providing education and services for the farming population. The impact of stressors on people and farm enterprises, sometimes resulting in suicides, was pushing Extension, health, and finance professionals to address stress on farms more directly.

What's New? This 2021 eFieldbook version of the guide is a product of a grant from the Connect Extension Foundation's New Technology in Agriculture Education awarded to the University of Delaware Cooperative Extension. Under the tutelage of the team of advisors to the project, we updated the first edition and converted it to an eFieldbook. This version includes new sections on the impacts of COVID-19 on the farming enterprise and farming population, minority and women farmers, and community resilience. It also includes 50 new references and multiple audio and video recordings that provide testament to the literature and/or explain a concept in depth.

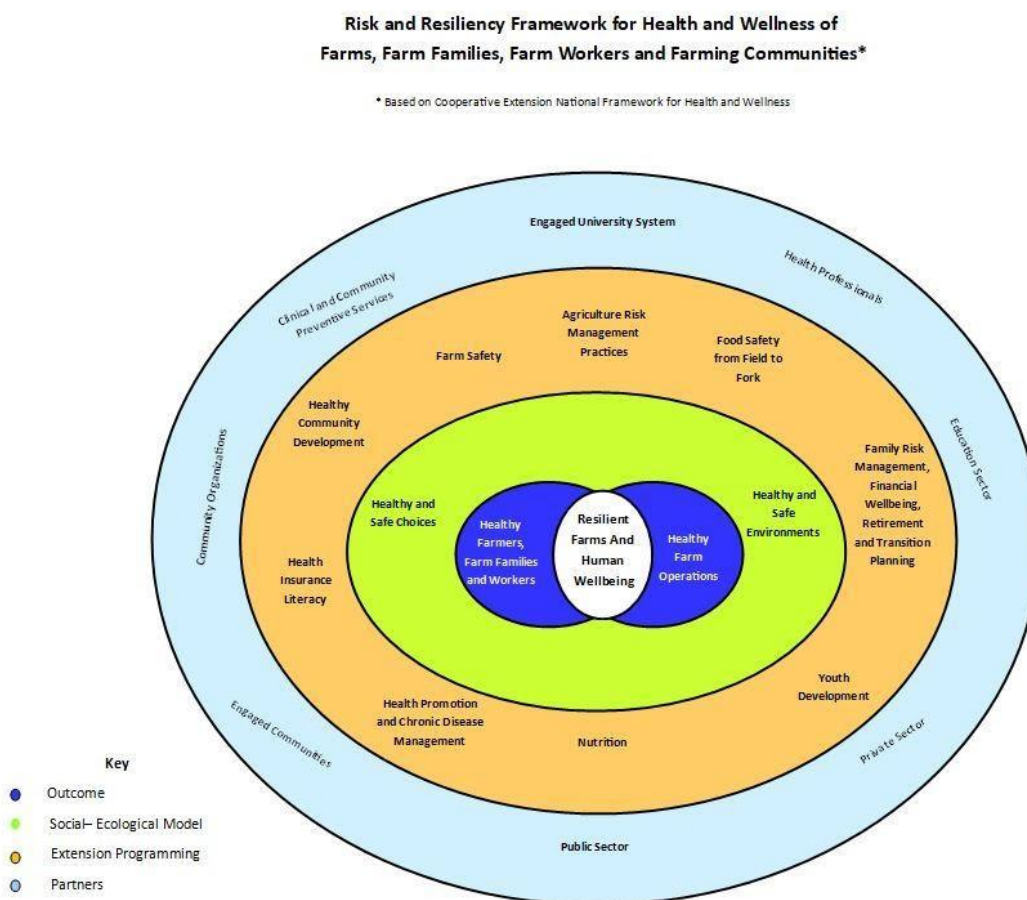
Literature Review. Our search for such an approach to undergird Extension stress-related programming led us to examine risk management in use by the agricultural field and of resilience used in agriculture, community development, and health, including mental and financial health and well-being and human development and family science. Our literature review examined seminal writings and research

conducted during the past 15 years in the United States and other countries, resulting in nearly 150 citations included in the reference section. We included change and resilience theoretical models. We created a framework for exploring risk and resilience concepts related to farms and farm families based on a socio-ecological model for programming.

For this new edition, we updated the literature review and financial citations and included more information about mental health and stressors related to COVID-19 and the farming enterprise and populations, emphasizing women and minority farmers. We added a new section focused on community resilience as related to farm populations. And we added tools for teaching and assessment. Finally, we included many audio and video recordings that amplify the concepts and often include stories from a diverse representation of farmers.

Vision. Our modified conceptual framework is grounded in the 2014 Cooperative Extension National Framework for Health and Wellness (Braun et al., 2014) with our slightly modified vision shown below:

In the 21st century, Extension can do for the resilience of farms and the farming population what it did for American agriculture in the 20th century.



Call to Action. Many professionals offer information about stress and managing stress. Such education is necessary but insufficient.

Few professionals offer a risk and resilience framework with a socio-ecological theoretical model approach to the physical, mental, emotional, and financial health and well-being of farmers, their families, and associated individuals. An integrated, research-based, and theoretically sound systems-focused approach is needed. A resilience-based intervention is 90% likely to produce positive effects (Macedo et al., 2014). And in an evaluation of an Extension program, 100% of participants thought a risk and resilience approach was worthy of taxpayer' dollars (Jackman et al., 2015).

Therefore, we urge Extension professionals to respond to our call to action by applying a risk and resilience, systems-focused approach to their programming that addresses multiple aspects of thriving farming and farm family living within supportive communities.

The premise of this guide is that it will take an integrated, research-based, and theoretically sound systems-focused approach to effectively prevent or mitigate risk stressors and build the resilience of farms and farm families.



Source: Maria Pippidis, University of Delaware Cooperative Extension

INTRODUCTION TO THE GUIDE

A guiding principle of Extension is that educational programming is based on knowledge generated through unbiased, research-based, scientific inquiry. The intent of Extension programming is to apply that knowledge to information-sharing and learning experiences that enable individuals, families, businesses, communities, and public policymakers to more effectively address personal problems and public issues affecting their work and lives. Increasingly, Extension works with other professionals in health, finance, and other fields who serve those we serve.

This guide contains the following:

- A literature review and a farm and farm family risk and resilience framework
- A set of three logic models for programming for three different audiences
- Tools for assessments and teaching
- Other teaching resources

The guide can do the following:

1. Stimulate thought and dialogue among Extension and other professionals.
2. Shepherd professionals in designing, testing, and evaluating programming.
3. Provide a common set of background information and teaching tools for individuals and teams from multiple disciplines and different professional settings.

The guide is divided into four sections to address four questions about programming to reduce risk and increase the resilience of farms, farm families, and associated communities:

1. Why use a risk and resilience theoretical framework?
2. What outcomes could be achieved using a socio-ecological risk and resilience model?
3. How can Extension and other professionals apply research and theory and incorporate existing resources into programming?
4. Where do I start?

Finally, the guide includes references used in the literature review. These references can be used by professionals for additional information, preparation of grant proposals, and conducting research.

Chapter 1: Why use a farm and farm family risk and resilience framework?

SCIENCE AND BEST PRACTICES

To build a strong foundation on which to conduct intervention and programming means understanding how best to address stress on farms, farm families, communities, and external systems. This understanding can then provide guidance for educational programming, educational materials development, and evidence for assessing the effectiveness of interventions conducted by Extension and other professionals.

Our search for answers to “how” ultimately led to existing research and theories of the stress-risk connection, resilience, and ecological systems. Conclusions drawn from the literature informed the creation of a farm and farm family risk and resilience framework socio-ecological model. This section of the guide includes a brief overview of existing research and theories.

The science of risk and resilience provides an appropriate knowledge base that can guide educational, research, and direct service programs. Risk and resilience span the disciplines of agriculture and the natural environment, social and cultural environments and human ecology, human development, family science, health, emotional and mental health, psychology, sociology, and others.



In this section, we have included brief explanations of risk and resilience science for thinking about and taking action, addressing stress and crises with respect to the total health and vitality of farms, the individuals, and supporting the farm and the community. The research led to our conclusion that a socio-ecological approach to strengthening farms and farm families is needed.

STRESSORS AND THE FARMING POPULATION

Farms and farm families experience ordinary and extraordinary stressors and change because of the interdependent nature of the farm family business and farm family living (Braun, 2019).

Extraordinary stresses add additional pressures to farming enterprises and threaten their future. Examples include increasing periods of drought, rain and storms, volatile markets, tariffs, and resulting falling commodity prices (Burnett, 2014; Co Bank, 2019; Dudensing et al., 2017; Kearney et al., 2014; Swayne, M. 2018; U.S. Global Climate Research Program 2018). COVID-19 is another extraordinary stressor. Both race and gender are other sources of extraordinary stress. Responses to those pressures range from dismay to distress to despair—and even to suicide—often accompanied by the onset of chronic health issues.

In addition to the extraordinary stresses, the farming population experiences ordinary stresses. Ordinary stresses include the constancy of responsibilities to make or keep the farm profitable; beginning and/or retaining a farming legacy; juggling on and off-farm work; caring for family members; dealing with illness or injury; accessing health care; obtaining health insurance; managing multi-generational tensions (Fullerton, 2017); and handling weariness and loneliness (Braun, 2019).

Both types of stresses may destabilize individuals, families, farms, and local communities. Agricultural communities experience downturns in their economies and available social capital to do the important work of community engagement when the farming population is coping with the pile-up of stress.

Cooperative Extension has historically responded to the challenge of changes affecting agriculture and the farming population with a focus on individuals and farms. Professionals within and outside of Extension, representing multiple disciplines, are seeking ways to understand and address contemporary impacts of change, with accompanying stress, on farming, farming populations, and the public.

Some professionals identified the need during the 1980s farm crisis, and some have identified the need after more recent downturns in farming profitability, described in news reports of suicides and indicated in farm organization surveys, and recent research. An array of professionals from multiple disciplines is calling for help in developing their understanding of the problems and issues, identifying resources they can use to help the people they serve, and in gaining confidence to act. Some are seeking help as they handle their personal reactions to stresses and crises of those they serve. Evidence of the presence of stress (distress) and sources of stress (stressors) is found in literature from the United States and other countries. Stress has no jurisdictional boundaries.

Stress becomes distress when there is a pile-up of stressors that can overwhelm the ability to process without some negative impact. This pile-up is also known as cumulative stress. Farm and farm family stress—more accurately, distress—is brought on by pressures experienced by members of the farming population, farming systems, and farms as a business.

Stress is a response to change in internal conditions or external conditions or both. It is a response to environmental demands and changes within an individual, family, or farm or outside in economic, social, environmental, policy, or physical environments.

Farm and farm family stress—more accurately, distress—is brought on by pressures experienced by members of the farming population, farming systems, and farms as a business.



VIDEO

This 4-minute TED-ED video, How Stress Affects Your Brain, provides a brief overview of the impact of stress, and especially chronic stress, on the brain and body. This overview is fundamental to understanding stressors and mental and physical health within the farming population.

https://www.ted.com/talks/madhumita_murgia_how_stress_affects_your_brain/transcript?language=en#t-2030





VIDEO

In this 22-minute video, produced in late 2020 by the American Psychological Association (APA) and Farm Aid, Arthur C. Evans, Jr., APA CEO, talked to Minnesota dairy farmer Meg Moynihan about the unique stressors facing farmers and the health benefits of getting help.

https://www.youtube.com/watch?v=8FFJeQRUse0&feature=emb_logo



TYPES OF STRESSORS

Stressors appear to cluster into two categories: ordinary, or regular, stressors and extraordinary stressors. Ordinary and extraordinary stressors can deter farm business success or contribute to positive changes (Braun, 2019).



VIDEO

Stress is part of the “constancy of responsibilities” described by Beth Kennett, co-owner and co-operator of Liberty Trees Farm in Vermont. Beth also speaks to having a health emergency and to the contribution of farmers to communities in this 6-minute video.

Site: <https://www.hirednag.net/resources-for-farmers>

Video: <https://vimeo.com/236252854>



Ordinary stressors. Farm families experience daily stresses over the same things that stress non-farm families, like employment, childcare, household management, financial stability and interpersonal relationships. However, the mixing of the farm business and the family creates some unique stressors. For farm families, they are tied to the farm as a workplace and their home.

For many, off-farm employment is necessary to provide cash to finance the family and farm and insurance to partially cover health care costs (Inwood et al., 2018). Intergenerational tensions are conflated with roles as family members and roles as farm owners, operators and/or laborers. A study of multi-generational farm relationships found conflicts between generations around management, decision making, and the transfer of the farm operation (Danes & Lee, 2004).

Some are challenged by the profitability of long-term farming operations; others, especially beginning

“There’s a heavy pressure – the weight of expectations and a sense of failing the next generation.”

- U.S. Representative J.T. Wilcox WA speaking to farmers in 2018

farmers, are challenged by new ventures. New ventures present their own set of stressors. Tensions may arise between the entrepreneur and immediate and extended family members. Researchers are acknowledging the importance of family context on start-up success and sustainability (Hanson et al., 2019; Yang & Danes, 2015).

Farm families may struggle with building and maintaining a farming legacy. Their deeply felt

connections to the land and to what, for many, is a “calling” can also become a stressor if there are different connections to the land among family members or when the viability of the farm is at risk (Rosmann, 2008).



VIDEO

In this 1-minute, 20-second video, Mike Harrison, owner-operator of a multigenerational soybean farming business in Howard County, Maryland, talks about the importance of being a farmer.

Site: <https://myndfarmers.com/>

Video: <https://youtu.be/DJuH1l5kNaE>



VIDEO

In this 4-minute video, Russell and Jewel Bean talk about returning to their family farm after corporate careers. They were determined to continue their family legacy farm. Their work was recognized by the Alabama NRCS with a 2017 Small Farmers of the Year Award.


<https://www.youtube.com/watch?v=3sP6X8duaGY>



Extraordinary Stressors

Extraordinary stressors are those demands and changes that become crises and put farm businesses and farm families at risk. Extraordinary stressors are beyond an individual's control. They are disruptors. They include downturns in the agricultural economy (Dudensing et al., 2017); increasing weather uncertainties (Swayne, 2018); labor shortages (USDA Economic Research Service (ERS), 2019); trade and market uncertainties (Co Bank, 2019); and, in 2020, the COVID-19 pandemic. These disruptors produce a lack of consistent farm income for many farm businesses and families and a lack of access to food for community members. One study found evidence of post-traumatic stress syndrome after a damaging weather event (Kearney et al., 2014).

Studies have documented that ordinary and extraordinary stressors are risks with which farmers, farm families, and the farming workforce must cope. They are dynamic, disruptive, and destructive forces that affect health, vitality, and viability of farms, farm families, and farming communities.



VIDEO

This 11-minute video features the experience of a third-generation farmer near Camilla, Georgia, prior to, during, and after Hurricane Michael in 2018. Worsham Farms grew and produced over 1,500 acres of sweet corn, 1,200 acres of peanuts, and 2,500 acres of pecans—with trees over 100 years old. The farmer talks about the challenge of starting over and rebuilding in the face of massive destruction.

Site: <https://agamerica.com/videos/hurricane-michael-impacts-farmers/>

Video: <https://youtu.be/zT0oAp60gns>



Extraordinary stressors produce a lack of consistent farm income for many farm businesses and families. They also produce distress among the farming population. When stress piles up, the ability to make sound decisions, adopt agricultural best practices and take appropriate action decreases (Burnett, 2014). Family dynamics are affected (Hirsch & Cukrowicz, 2014), and illness and injury increase (Jadhav et al., 2015; Simpson et al., 2004) along with feelings of despair (Freeman et al., 2008). The farm, and the people who farm, become at risk.

The extent and duration of the extraordinary stressors, when combined with the stress of the constancy of ordinary responsibilities, can threaten even thriving and stable farm enterprises and farm families. Research has documented ties between the pile-up of ordinary and extraordinary stress and chronic health problems, the use of substances to alleviate pain or numb feeling, and even suicide (Fraser et al., 2005; Dudensing et al., 2017).

Medical research has found that chronic psychological distress is associated not only with poor mental health but also with the body losing its ability to regulate the inflammatory response, which can lead to illness and the progression of diseases (Carnegie Mellon University, 2012). Nearly two-thirds of farmers—even young farmers—in one study reported pre-existing conditions (Inwood et al., 2018).

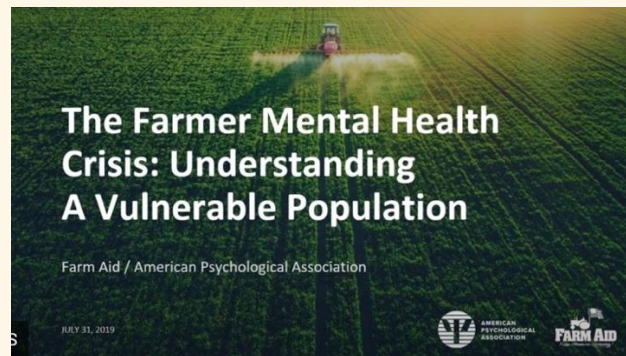


In this 2019, 60-minute webinar, sponsored by the American Psychological Association and Farm Aid, a panel addresses stressors faced by farmers and ways to help them overcome barriers to mental health care. Speakers include Michael Rosmann, Ph.D., Psychologist; Meg Moynihan, Dairy Farmer and Senior Advisor to the Minnesota Department of Agriculture; and Alicia Harvie, Director of Farmer Services for Farm Aid. The panel explains the farming culture and environmental and economic conditions that affect farmers' mental health and well-being.

Site:

<https://www.apa.org/members/content/farmer-mental-health>

Video: <https://youtu.be/c7K6VQotDJK>



COVID-19 - A Super Extraordinary Stressor

COVID-19 is an extraordinary stressor experienced in 2020 by the farming population, farming and allied enterprises, and by consumers. The effects will continue in 2021 and beyond. Early indicators of COVID-19 effects are found in several studies.

Effects on Farmers. The USDA chief economist released an article in October 2020 with an overview of COVID-19 effects on farm operations (Johansson, 2020). According to the economist, farmers had been through multiple years of financial distress going into the pandemic. Then, in 2020, the pandemic produced supply and demand shocks in the food system. For farmers and farm families, effects included a reduction in demand for biofuels, corn in particular, as the public drove less; decline in restaurant food sales, especially for meat, dairy, and specialty crops; falling gate prices and extra output of some livestock, milk and perishable products; and rising rates of farm loan delinquency.

According to March 2020 figures, cited by the chief economist, bankruptcies continued a five-year rise, with a 23% increase from 2019. And some farmers counting on off-farm income to service debt lost part or all of that income due to COVID 19-related unemployment (Becot et al., 2020). In previous research (Inwood et al., 2019), farmers also used off-farm income and employment for their health insurance to manage risk (Inwood et al., 2018).

Near the end of 2020, Johansson remained optimistic that U.S. agriculture could recover as reflected in this quote: The COVID-19 outbreak has severely dampened expectations for 2020 and 2021. And, while the timing and pace of the economic recovery remain uncertain, the fundamentals of U.S. agriculture are sufficiently strong to withstand the crisis. (Johansson, 2020).

In April 2020, the Farm, Food and Agribusiness COVID-19 Impact Survey was conducted by the Ohio Farm Bureau and state commodity organizations. In the course of a week, data were collected from slightly over 1,100 farmers. Within this group, 65% reported a negative or very negative impact on farm revenue. Among those farmers, market distribution channel problems and cash flow issues were at the top of the list of negative effects. They also reported problems with access to sanitation and protective equipment; selling directly to consumers and restaurants; transportation; access to supplies; and business resources, including labor and processors (Ohio Farm Bureau, 2020).

In a study of 611 farmers conducted by the Trust in Food Farm Journal Initiative (Rayburn, 2020), 62% of respondents said that COVID-19 impacted their farming operation. Among those, 96% faced reduced prices; 67% saw reduced demand, and 50% felt mental distress. Trust in Food also reported that in another study of farmers and people connected to farming, the response to the statement, “I have never been so stressed,” more than doubled in 2020 compared to self-reported levels in 2019.

In January 2021, the National Farmers Coalition and the American Farm Bureau released the results of a survey of 2,000 adults in rural areas conducted in December 2020 (Morning Consult, 2020). The study compared results to a similar study conducted in April 2019. Sixty percent of respondents said they were concerned about financial issues; 51% about the future; 54% about losing the farm; and 50% about how the farm economy was affecting farmers’ mental health. Among the farmers and farmworkers who responded, 66% said the pandemic had affected their mental health, and 58% said they were having more mental health challenges than a year ago. Farmers and farmworkers reported that they were 10% more likely than rural adults to have felt nervous, anxious, or on edge. The percentage who said social isolation had affected their mental health increased 22% since the first survey. The younger the survey participants, the more likely they were to report that COVID-19 had affected their mental health considerably.

Loneliness, often experienced by farmers along with ordinary and extraordinary stress, is linked to declining physical, mental, and emotional well-being. More specifically, loneliness “increases blood pressure and cholesterol; activates physical and psychological stress responses; contributes to cardiovascular disease—the number one cause of death in the United States; and suppresses the immune system—our protection from illness and disease” (Lobley & Wheeler, 2020). The COVID-19 pandemic contributed to social isolation because people were told to be socially distant to prevent the spread of the virus. The topic is so prevalent that in the fall of 2020, a study was launched to examine cultural and social factors affecting the lived experience of loneliness, social isolation, and mental health in farming communities (Lobley & Wheeler, 2020).

Social isolation occurs when an individual isn’t engaged with family, friends, and others (Williams & Braun, 2019). Withdrawal from social interactions is often a characteristic of farmers and family members experiencing a pile-up of stress or dealing with crises. A study released in January 2021 found that there was a 22% increase, compared with the results of an April 2019 survey, in farmers and farm workers reporting that social isolation was affecting their mental health (Morning Consult, 2019).

Positive social bonds among family and extended family members and with people in the community are associated with better health. A meta-analysis of multiple studies found that strong and deep social connections were associated with a 50% drop in the risk of early death (Holt-Lunstad et al., 2017). For some farmers, COVID-19 affected the accessibility of social support within geographic communities.

Effects on Young Farmers. The National Coalition of Young Farmers conducted a study in April 2020 to identify young farmers’ top challenges during COVID-19. Seventy-five percent of participating farmers said they had seen a reduction in the number of outlets for selling their products; 53% incurred additional costs for implementing alternative sales strategies; 45% said they couldn’t complete planned projects; 45% lacked having available technical support; and 26% said they had trouble retaining employees. One or more “non-farm” effects were reported by 70% of participating young farmers. Those effects included loss of off-farm income; increased caregiving; and handling personal health effects of COVID-19 (Lemos & Ackoff, 2020).

Effects on Farm Workers. Farmworkers join farmers in providing the labor to supply food for the nation and beyond. They were designated as essential workers and targeted to receive COVID-19 vaccinations early in vaccine distribution (Centers for Disease Control and Prevention, 2021).

The Centers for Disease Control and Prevention (CDC) conducted a study of COVID-19 among meat and poultry plant workers. As of April 2020, 4,913 employees had been infected, and 20 virus-related deaths had occurred in 115 of those plants (Dyal et al., 2020). By June 2020, five workers from two poultry plants on Maryland's Eastern Shore had died, and 200 workers had been infected (Dance, 2020). By July, another worker had died, and infections among meatpacking workers had increased to 570. It's likely that many other infections were not reported. As of mid-January 2021, there were 81,386 confirmed cases in 1,363 meatpacking and food processing facilities and 383 deaths among meat packing, food processing and farm workers (Douglas, 2020).

Latino farmworkers have accounted for a disproportionate share of COVID-19 cases. They exhibited five to seven times the risk of COVID-19 related deaths compared to Whites (Bassett et al., 2020). A Florida study conducted in 2020 examined risk factors for COVID-19 among crop workers in Florida and across the United States. The study showed that 84% of crop workers across the U.S. and 75% in Florida had at least one precondition that put them at greater risk of complications from the virus, including diabetes, liver disease, heart condition, and kidney disease (Onel et al., 2020). The study also found that male workers over age sixty, with a pre-existing condition, were at risk of serious illness after having the virus.

Another study, conducted in the Salinas Valley of California, also investigated risk factors among farmworkers. Many of the California workers had preexisting conditions, including obesity, hypertension, and diabetes. Close living quarters also put the workers at greater risk. This study also examined the effect of COVID-19 on mental well-being. Among the workers surveyed, 91% saw the virus as a threat; 85% were either concerned or very concerned about contracting it; 82% said COVID-19 had a negative or extremely negative effect on their lives; 37% were experiencing very low food security; 33% were afraid of losing their employment if they got sick; 32% had a loved one get sick or die; 8% were identified as likely having a major depressive disorder; and 6% were identified as likely having generalized anxiety (University of California, 2020).

Effects on Physical Health. COVID-19 presents a threat to the health of farmers. With the average age of farmers being 58 years, and 30% being 65 years or older, and with most farmers having a pre-existing condition, a high percentage of them are vulnerable to the virus (Inwood et al., 2018). Especially vulnerable are farmers of color, including Black and Latino farmers, and farmworkers who work or live in close quarters.

This list, based on a review of recent relevant literature, summarizes the effects of COVID-19 on the farming population:

Financial

- Falling prices and revenue
- Market disruptions
- Decline in restaurant food sales
- Loss of off-farm income
- Rising rates of farm loan delinquency-bankruptcies
- Reduction in demand for biofuels
- Lack of labor, processors, and farming supplies
- Trouble keeping labor
- Cash flow problems
- Added costs of alternative sales strategies
- Difficulty accessing inputs

Health

- Increased mental distress
- COVID-19 related illness and deaths in farmers, farm families, and farmworkers
- Food insecurity—lack of availability and accessibility

Other

- Transportation and other supply chain problems
- Uncertainty of food demands
- Policy changes
- Opportunity costs of projects not done
- Problem providing childcare or care for other family members

Effects Reported in the Media.

The effects of COVID-19 on farming enterprises and the farming population have been a topic for multiple media sources. Several are included here.



In a 4-minute, May 2020 podcast from Iowa Public Radio News, reporter Natalie Krebs explains COVID-19 stress on farms. The podcast, "As Farmers Face Increasing COVID-19 Pressure, Some Fear for their Mental Health," includes a number of farmers speaking candidly. It also includes two mental health specialists talking about working with farmers under stress.

<https://www.iowapublicradio.org/health/2020-05-18/as-farmers-face-increasing-COVID-19-pressure-some-fear-for-their-mental-health#stream/0>



VIDEO

On April 3, 2020, "CBS This Morning" did a 3-minute segment on farmers struggling with COVID 19. Correspondent Mark Strassmann reports on how some farmers lost markets for their products and others struggled to harvest crops due to labor shortages. <https://www.youtube.com/watch?v=yAvXEOrZSKY>



WEBSITE

In a 1-minute video segment of "The Latest with Lee," the host explores where food comes from and how COVID-19 is affecting farmers. The host asks and answers three questions: 1) Why are there shortages in grocery stores while farmers are destroying their crops? 2) Why are pigs being euthanized? and 3) Why are millions of pounds of potatoes going to waste?

Site Video: https://video.vice.com/en_us/video/COVID-19s-devastating-effect-on-american-farmers/5ed0115f99732863607f56e1



VIDEO

The American Farm Bureau, in a 90-second, May 2020 video, "America's Farmers and Ranchers are #StillFarming," reminds viewers that farmers and ranchers are working to provide food throughout the COVID-19 pandemic. In promoting the video and work of farmers, the current president, Zippy Duvall said: "With the coronavirus pandemic, we're facing a crisis the likes of which none of us has experienced before. Times like these remind us all of the importance of ensuring our nation's food security, and we want to assure Americans that agriculture remains on call 24/7."

<https://www.youtube.com/watch?v=Eo92CWsZKaW>



Farm Systems Stressors. The farming population and the business of farming are affected by farming systems stressors from four areas of challenge: economic, environmental, social, and institutional (Meuissen et al., 2019). Farming systems are challenged to hold up to, adapt, and/or transform in response to increasingly complex impacts from all four areas. The interconnectedness, dynamics of change, and uncertainties arising from each area of challenge can lead to extraordinary stressors on farming systems.



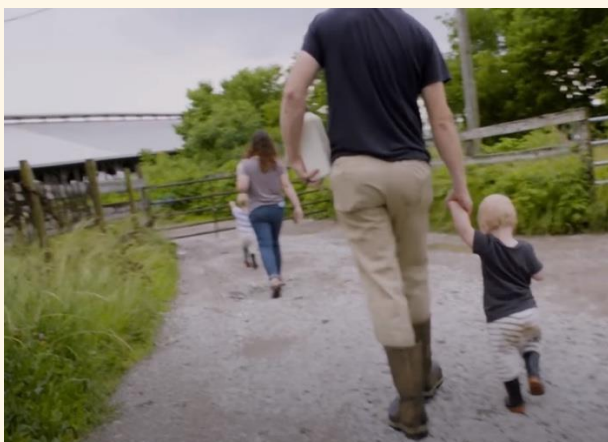
Americans saw firsthand supply chain problems early in the COVID-19 pandemic. Milk is used to explain supply chain problems in this 10-minute video from June 2020 titled, "Why American Farmers are Throwing out Tons of Milk"

<https://www.youtube.com/watch?v=MODobm9mWIk>



In this 9-minute video from NBC, "The Last Days of an American Dairy Farm: Hard to Believe It's Over," a corporate decision by Walmart led to dairy farmers no longer having contracts - a disruption in the production, processing, and distribution systems. In this video, the three-generation Coombs family dairy farming business shut down of their operations is documented.

<https://www.youtube.com/watch?v=XEI6HbCZjRQ>



Stress Varies across Farming Populations. Historically, and to some extent, in 2021, the word farmer is used to connote White males. An extensive review of the topic of women in agriculture is included in a 2016 thesis (Shisler, 2016).

Over the years, agricultural census data were focused on males only. In more recent years, women were included, and Census questions were changed to better reflect the diversity of people in farming and agriculture production. The 2017 Census of Agriculture reported a 64% male; 36% female distribution of producers. Producers were defined as anyone involved in farm decision-making. This Census expanded data collection to include information data about young, new, and beginning (27%) and military service (11%) producers (for the first time). Producers were identified as: 95% White, 3% Hispanic; 1.7% American

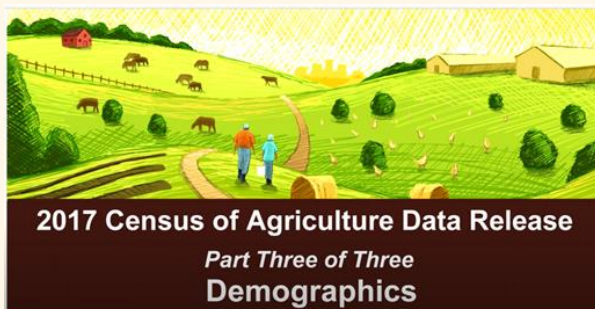
Indian/Alaska Native; 1.3% Black; .8% more than one race; .6% Asian; and .1% Hawaiian/Pacific Islander (USDA Census of Agriculture NASS, 2019).



VIDEO

Two minutes and forty seconds into this 2019 video from the USDA National Agricultural Statistics Service, Ginger Harris, Demographer, reveals key data from the 2017 USDA Agriculture Census.

<https://www.youtube.com/watch?v=XRKhL2n48rq&feature=youtu.be>



Farming population subgroups experience different realities in living and farming. Some experience gender, race, and sexual orientation discrimination, and some share social determinants of health that threaten their well-being and ability to farm. Structural racism in U.S. agriculture has a long history.

As one psychological researcher put it, “Bad things happen” (Bonanno, 2004, 2005; Bonanno et al., 2011). Everyone experiences the adversities of life. In the United States, 90% of the general population has experienced a traumatic event (Kilpatrick et al., 2013). For some, those adversities arise out of multi-generational and societal conditions that make living stressful. Decades of stress and health research has suggested that stressors have a substantial damaging impact on health; are experienced differently according to gender, race, marital status, socioeconomic factors, and status; and occur over the course of life and across generations (Kilpatrick et al., 2013). Over time and across the general population, sources of stress hold relatively constant (American Psychological Association, 2015). New in 2020 was the added extraordinary stressor of the COVID-19 pandemic.



VIDEO

Speaking via a 3-minute video, Ted Matthews, rural mental health practitioner and Director of the Minnesota Rural Mental Health Office, Department of Agriculture, briefly addressed stressors of COVID-19 among farmers in the short and long term. He raised concerns going forward about a rise in Post-Traumatic Stress Disorders (PTSD) among farmers who dealt with COVID-19 related problems such as those experienced by hog farmers.

<https://www.youtube.com/watch?v=x16eRAAxfOc>



Women in Agriculture. Between the 2012 and 2017 U.S. Department of Agriculture Census, the number of farms with at least one woman producer increased 27% (USDA National Agricultural Statistics Service, 2014 and 2019). Those women were 95% White and 5%, women of color. The stressors and challenges of female farmers are little understood, though there is evidence of gender discrimination in agriculture in being accepted as a farmer and in getting access to land and other resources. Female farmers in sustainable

agriculture, who were interviewed for a multistate study, acknowledged feelings of self-doubt and loneliness, and challenges in balancing farm and family life (Daigle & Heiss, 2020).

Females on farms carry more distress than males as they juggle on and off-farm work and what is known as the “third shift” care of the family (Elliott et al., 2018). During the COVID-19 pandemic, some experienced layoffs or the need to work from home. Those with school-aged children dealt with children at home experiencing school virtually if accessible, affordable internet was available. A study by Marotz-Baden & Mattheis (1994) suggests that daughters-in-law carry the most stress due to intergenerational tensions.

Multiple studies indicate that female farmers experience stressors differently than male farmers; they are more affected psychologically. Their depressive symptoms are associated with what they thought was racial or ethnic discrimination and conflict with their families. Conflicts occurred around farm and home roles and interpersonal relationships (Yazd et al., 2019). One study of seven tensions within farm couples arising from the farm business found that husbands and wives differed in their priorities. For husbands, profit was the top priority, while for wives, priorities were family relationships. And for husbands, more tension was tied to stressful events and keeping the business in the family (Danes & Lee, 2004).



VIDEO

In this 6-minute video, “Meet an Annie’s Project Graduate,” Brenda Fleming, owner and operator of a farm in Dorchester County MD, explains how as a widow, she’s continued the farming business with the goal of having a successful operation to turn over to her sons. She addresses some of the challenges of being a female farmer.

Site: <https://extension.umd.edu/annies-project/meet-annies-project-graduate>

Video: <https://youtu.be/YrWcZfyTfmE>



Children. The impacts from COVID-19, including social distancing, isolation, and virtual schooling, are not yet well documented. One study found evidence that children are affected differently based on their age. Those ages 3-6 years old exhibited more clinginess and fear of family members getting infected than those 6-18, who are more likely to experience a lack of attention and frequently ask about COVID-19. Adolescents were anxious about the cancellation of school exams, exchange programs, physical activities, and events (Jiao et al., 2020; Lee, 2020). Some experienced boredom; others relied heavily on social media.

Parents in one study reported that all ages showed increased irritability and agitation, feelings of fear and isolation, disrupted sleep, and changes in appetite (Jiao et al., 2020). Children with special needs experienced particular challenges depending on their needs (Center for Disease Control and Prevention, 2019). Another reported that children of all ages were showing signs of the impact of COVID-19 (Singh et al., 2020) and called for longitudinal studies to understand the long-term impact of COVID-19 on the mental health of children.



Brenda Rudolph,
<https://raisingafarmer.com/2016/11/11/why-are-farm-kids-so-healthy-an-unfunded-study-from-a-dairy-mom/>

The mental health of children living on farms will be impacted by the stressors experienced by family members and how caregivers manage those stressors. When children experience trauma brought on by how caregivers themselves handled stress, such as suicide or attempted suicide, children experience what is called Adverse Childhood Experiences. Those experiences can introduce physical and mental problems that can carry on into adulthood (Centers for Disease Control and Prevention, n.d.). Children may exhibit negative behavior, injury, and illness. For some, depression and/or anxiety may be present during adolescence, young adulthood, or even in later adulthood.

Young Farmers. Among male farmers, young farmers are projected to suffer most from economic distress (Key, 2019). They carry high burdens of depression and anxiety about finances and time pressures (Rudolphi et al., 2019).



Some of the challenges of being a young farmer are shared in this 2019, 3-minute podcast, Looking Back on a Decade of Young Farmers. The video describes the creation of the National Young Farmers Coalition. <https://www.youngfarmers.org/2019/06/lookingback/>

Farmers of Color. For farmers and ranchers of color, who make up about 5% of farm producers (USDA National Agricultural Statistics Service, 2019), there is a burden of stress from structural racism (Paradies et al., 2015). This burden of stress that has detrimental impacts on physical and mental health.



VIDEO

In 2020, a 7-minute video was released by A+J productions to show what's happened to the population of Black farmers. As the introduction explains, *The United States was built on the agricultural strength and skill of Black slaves who knew how to farm. But even after slavery ended, Black people who worked as farmers have continued to face systematic barriers...*

<https://www.youtube.com/watch?v=71WZnsgSUoQ>



There is also a history of discrimination and disenfranchisement of farmers of color through federal government legislation, treaties, and agencies, including the USDA (Cowan & Feder, 2013). And, the land-grant system has also contributed to the stressor of discrimination (Nash, 2019).

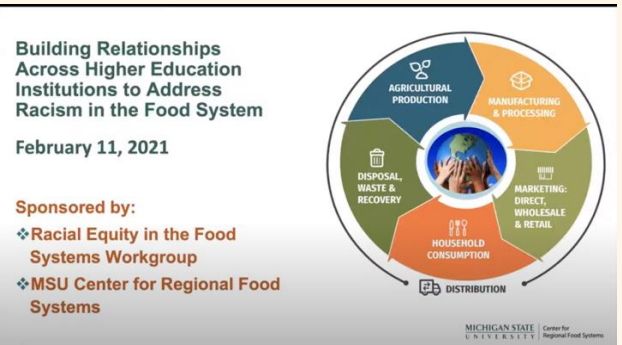
On February 11, 2021, Michigan State University's Center for Regional Food Systems conducted a 90-minute webinar that reviewed the history of the land grant system including the 1862 (predominately White), 1890 (historically Black), and 1994 (Tribal/Indigenous) colleges and universities. This webinar, titled Building Relationships across Higher Education Institutions to Address Racism in the Food System, provided an overview of the history and policy of these institutions through a racial equity lens.



VIDEO


Panelists described an "asset-based pluralistic model of collaborative research and outreach across these institutions to advance food system sustainability and resiliency." It closed with some ideas about how to improve relationships and offered some resources to explore.

<https://www.youtube.com/watch?v=WQkt4cq2PKI>



Hispanic and Latino(a) Farmers. No studies were identified in peer-reviewed publications that specifically addressed stressors among Hispanic farmers though there were some recent studies of the impact of COVID-19 on farmworkers.

Those findings are reported in the COVID-19 section of this Guide. One study of 17n Nebraska Hispanic and



WEBSITE

Hispanic Farmers on Broken Ground, a 26-minute PBS documentary produced in 2012, addresses some of the challenges faced by Hispanic farmers. The video was based on interviews of 17 farmers. While dated, it provides background information based on earlier USDA Census data. This was the only video found in a search for stories of Hispanic producers.

<https://www.pbs.org/video/net-nebraska-news-hispanic-farmers-on-broken-ground/>

Latino farmers and ranchers found some mention of racism and social isolation and lack of a support network from agricultural organizations (Center for Rural Affairs, 2012).

Native and Indigenous North American Farmers. Relevant information about the 1.7% of native and indigenous North American farming producers, and about their stressors was difficult to locate. Data from 2020 on the mental health of this population in general, revealed that 19% reported having a mental illness in the previous year (Hellebuyck et al., 2019).



VIDEO

In this 9-minute video, titled: Thoughts of a Hopi Farmer, farmer Michael Kotutwa Johnson speaks about sustainability, stewardship, and sovereignty. He explains the importance of Hopi heirloom seeds and traditional farming practices.

<https://www.youtube.com/watch?v=wJ-tLq7yhk4>



Black Farmers. According to the 2017 USDA Census, Black farm producers comprise less than 2% of agricultural producers. The history of Black farmers in the United States and their experiences with discrimination in general and specifically within agriculture and the USDA and land-grant universities, are well documented (Cowan & Feder, 2013; Nash, 2019; Kelly et al., 2021). Many left farming for other opportunities; many were excluded from loans for land and production resources. Some left due to the lack of clear title on land passed down to heirs.

In one study, Black farmers without clear title to their land, experienced discrimination and marginalization that hindered their ability to gain title (Thompson, 2017). Furthermore, these Black farmers and farm families experienced "long lasting severe emotional strain and trauma reactions..." For many Black farm families and their heirs, the stressor of proof of ownership is just one more stressor. The term heir's property describes this challenge.



VIDEO

To better understand the stressor of heirs' property, a 22-minute video provides background and contemporary information. In August 2020, Vice News released their story titled: How Property Law is used to Appropriate Black Land. Sandra Thompson, EdD, Community Development Specialist, Florida Agricultural and Mechanical University, shares her work on the topic of heirs property as do several others interviewed for this video. Together they provide reasons for why Black farmers have difficulty establishing their ownership.

https://www.youtube.com/watch?v=ls3P_Fic07I





VIDEO

The challenges of documenting land ownership among African-American farmers are also explained in this 66-minute webinar titled: Roots of the Soil: Land Succession Issues among African American Farm Families. It was produced by Purdue University.

<https://www.youtube.com/watch?v=N28dnYHe4-k&feature=youtu.be&ga=2.109731597.967779106.1612569596-1640754615.1612569596>



Many African American farmers have difficulty documenting land ownership. One family who can document their history is the Greer family of Lyle Station, Illinois. Shown here is Norman Greer, honored by the Smithsonian's National Museum of African American History as the last living African American farmer to farm on family land owned pre-Civil War (1855).



Photo provided by [Denise Greer Jamerson](#)

Discrimination and distress contribute to physical and mental health problems (Paradies et al., 2015). Studies of stress among farmers have included Black farmers but none were found to have analyzed the data by race or to have focused on racial similarities or differences.



June Provost, Jr. is a fourth-generation sugar cane farmer in Louisiana. He fought to maintain his family's farming legacy but eventually lost the farm. His story in this NBC video reinforces some of the challenges of being a Black farmer and family in the farming business. The 14-minute video, What Happened to All the Black Farmers? addresses historic and current challenges for Black farmers.

<https://www.youtube.com/watch?app=desktop&v=q-VWIZIL4ag>



Asian Farmers. According to the USDA 2017 Census, Asian producers account for less than 1% of U.S. producers. The majority are female located primarily in California and Hawaii and eight other states. They tend to be younger and with less years of farming than U.S. farmers in general.

Fred Lee, owner, and farmer of a three-generation Asian farm, who received a 2019 Farmer of the Year Award,

describes the history of his family: <https://tv.cuny.edu/show/asianamericanlife/PR2008710>

LGBTQ Farmers. LGBTQ farmers experience stressors from prejudice and discrimination, yet there is little published research about those stressors and their impacts on physical and mental health. They are often left out of research, policy, programs, media coverage and references. The USDA Agriculture Census does not collect information about LGBTQ farmers. They tend to be involved in sustainable agriculture operations due, in part, to lack of access to land and other resources and to a higher degree of inclusion in this farming sector which emphasizes diversity in agricultural practices (Hoffelmeyer, 2019).

In 2020, the USDA updated its non-discrimination regulations to include non-discrimination on the basis of gender identity (including gender expression) or sexual orientation. The statement, located at <https://www.usda.gov/non-discrimination-statement>, now reads:

" In accordance with Federal civil rights law and U.S. Department of Agriculture (USDA) civil rights regulations and policies, the USDA, its Agencies, offices, and employees, and institutions participating in or administering USDA programs are prohibited from discriminating based on race, color, national origin, religion, sex, gender identity (including gender expression), sexual orientation, disability, age, marital status, family/parental status, income derived from a public assistance program, political beliefs, or reprisal or retaliation for prior civil rights activity, in any program or activity conducted or funded by USDA (not all bases apply to all programs)."

Recently, stressors impacting LGBTQ farmers have been addressed in the literature. In one study, LGBTQ farmers reported feeling uncomfortable as they tried to build relationships that could help them be successful (Leslie, 2017). Another study identified uncertainty, fear, and isolation among this subgroup of farmers and strategies to overcome barriers such as explaining their business as a “chosen family farm” (Hoffelmeyer, 2019). LGBTQ farmers and farm workers worked with others like themselves as a support network.



VIDEO

Few videos about LGBTQ farmers exist. A 2019, 12-minute documentary from the United Kingdom titled, *Landline*, includes voices of gay farmers who called into a hotline answered by a retired chaplain. The farmers tell of their experiences and lives of isolation, secrecy, and shame.

<https://www.youtube.com/watch?v=zGhQFR0rZZA>



Extension Professionals. Extension professionals also experience ordinary and/or extraordinary stressors. The Journal of Extension contains many studies of work-life stressors among this population.

A 2020 study of 1,393 Extension professionals conducted during the COVID-19 pandemic found they were experiencing high levels of stress and having difficulty balancing their work and life needs (Israel et al., 2020). The majority (55%) of the participants were county or regionally-based educators; 20%, state specialists; the rest were administrators, staff, and others. They represented all program areas with 49% in agriculture; the remainder in youth development (35%), family and consumer science (26%), community development (14%), forestry (6%), energy and sustainability (5.1%), fisheries and marine (3.2%), and miscellaneous/other program assignments.

A majority (56%) of the participants reported that their clientele was exhibiting moderate or significant symptoms of stress. As COVID-19 disrupted their ordinary working conditions and that of many of their farming population clientele, Extension professionals may have felt not only their own stress but that of their clientele (Sampson et al., 2020).

Stressors Summary

A summary of the impacts of stressors on the farming population is provided below:

- Inhibited decision-making and adoption of agricultural and conservation practices
- Physical and mental chronic health problems among individuals and family members
- Depression, anxiety, despair, and suicide
- Physical injuries
- Opioid and alcohol misuse, addiction and, overdose
- Loneliness and social isolation
- Lack of access to health care
- Postponement of preventive care
- Concern of inability to pay for medical care costs
- Juggling on and off-farm work to obtain and pay for health insurance
- Racial and gender inequities
- Fear of losing farm as a business, a home, and a family legacy

For Extension and other professionals who want the farming population to adopt agricultural and conservation practices, an understanding of the impact of stressors could be key to programming that leads to action. If under too much chronic or acute stress, their ability to think and act could be inhibited.

HEALTH CHALLENGES

A USDA-funded study of farmers in multiple states found that 64% had a preexisting health condition, 40% said that health problems were affecting their ability to farm, and 50% indicated they would have no one to help in the event of a major illness or injury (Inwood et al., 2018). The author of a 2019 dissertation, based on the same study, concluded that the physical toll of stress reduces productivity leading to financial stress and problems among farmers (Becot, 2020).

Illness. With farming in the top ten most stressful occupations, farms and the farming population are at risk while at the same time facing access to care challenges (Garcia et al., 2017). One study found high levels of stress among farmers working 40 hours or more off farms in addition to on-farm work (Kearney et al., 2014). High levels of stress are associated with chronic physical and mental health issues. The added stressors associated with COVID-19, combined with the vulnerability of older farmers, farmers, and farmworkers of color, especially Black and Latino and especially those with preexisting conditions, puts the farming population at an additional risk for illness.

Injury. Farming is one of the most dangerous occupations (Center for Disease Control and Prevention, Agricultural Safety, n.d.). Farmers, their children and farmworkers are all at higher risk for injury than the general population. Injuries increase in the presence of stress or depression. When fathers engaged in injury-related behaviors on the farm while experiencing high farm-related stressors, their adolescent children did likewise (Stoneman & Landua, 2016).

One comprehensive review of multiple studies found that mental health challenges among farmers came from social, environmental, and economic factors. Injuries and resulting disabilities were related to poor health. Disabilities were in the top four most frequently cited risk influences for distress and mental health challenges (Yazd et al., 2019).

Farmers with injuries are at risk for opioid addiction. The Centers for Disease Control and Prevention states that opioids are prescribed for about 20% of farmers and the farm workforce who are injured and unable to work on any given day (Center for Disease Control and Prevention, Agricultural Safety, n.d.).

Injuries and disabilities are known to be risk factors for distress and mental health challenges.



Source: Farm Truck Accidents, Considering Your Liability Management Options, 10. Purdue Extension, 2011. In the public domain <https://www.extension.purdue.edu/extmedia/ppp/ppp-91.pdf>

Self-Treatment. Across the United States people turn to substance use as a way to cope with distress (Substance Abuse and Mental Health Services Administration, 2019) as do farmers and farmworkers (Shogren et al., 2020). A 2015 national study (Bush & Lipari, 2015) found that among agriculture, forestry, fishery and hunter workers ages 18-64, 9.4% used alcohol heavily in the past month. Heavy alcohol use was defined as consuming five or more alcoholic drinks on the same occasion on five or more days within the last 30 days. In the same study, 5.7% used illicit drugs in the past month; 10.5 % were dependent on or abused alcohol or illicit drugs in the past year.

A survey commissioned by the American Farm Bureau and the National Farmers Union found that 77% of farmers said they could easily get opioids without a prescription

(Morning Consult, 2019). A similar percentage of farmers (75%) reported being directly affected by opioid misuse, addiction, or overdose.

Another study of farmers found a correlation between a natural disaster and the increase in opioid overdose (Swayne, 2018). The same study revealed that opioid overdoses increase 10% with each \$10,000 reduction in net income per farm.

For White, middle-aged men, suicide is sometimes a way of responding to stress and crisis. Suicide rates among farmers are twice that of the general population (Peterson et al., 2018). In 2019, relationship problems and health issues, followed by financial and substance use, were associated with suicide among farmers in one state (Scheyett et al., 2019).



VIDEO

Using alcohol to deal with the stress of farming is revealed by Jeff Ditzenberger, a corn and soybean farmer. At one point, Jeff attempted suicide. He has since started a peer support group. This 7-minute HBO video, *The Farmers Fighting Rural America's Mental Health Crisis*, features Jeff and other farmers talking about the challenge of handling stressors in the farming business.

<https://www.youtube.com/watch?v=NwKaae4ilqE>



HEALTH INSURANCE CHALLENGES

Data from a USDA-funded study (Inwood et al., 2018) provided the following information:

Health insurance was identified by 73% of those farmers as an important or very important risk management strategy for their farm or ranch. Young farmers said that access to health insurance was one of the most significant issues impacting their future on the farm or ranch - a finding consistent with a survey of young farmers (Ackoff et al., 2017).

Health insurance was named as one of the top two reasons for off-farm employment. Among young farm and ranch families, 41% enrolled in public insurance to keep costs down and to be able to invest more of their human capital on farming operations and/or family. Among farmers in the study who had health insurance, only 51% reported their plans covered mental health; 33% didn't know if mental health coverage was part of their plans.

Concerns about the financial cost of health insurance and health care were noted by many farmers:

- 52% are not confident they could pay the costs of a major illness and injury without going into debt
- 45% are concerned they may need to sell some or all of their farm to pay for health care costs

Impacts from the COVID-19 pandemic on off-farm income and on the ability of farmers to retain health insurance through their off-farm jobs aren't available. However, with findings from a study that 66% (Inwood et al., 2018) have pre-existing conditions, many in the farming population are vulnerable to the COVID-19 virus. Studies have shown that farmworkers are often without health insurance (University of California, 2020). Having health insurance to help pay for treatment is important for farming families and farmworkers, as is having access to care. However, in early 2021, many rural health care providers and hospitals were overwhelmed in their ability to provide COVID-19 related and other care. The fact that many hospitals in rural areas have closed in recent years contributed to this situation.



VIDEO

Shoshana Inwood, PhD, is the lead researcher of a study funded by the USDA Agriculture and Research Initiative (AFRI), Health Insurance, Rural Economic Development and Agriculture. In this 1-minute video, Health Care and Young Farmers, she speaks about health care and health insurance among young farmers.

Site: <https://www.retn.org/show/shoshana-inwood-health-care-and-young-farmers>

Video: <https://youtu.be/dthAUBasLWM>



VIDEO

In the fall of 2017, the authors of this risk and resilience guide and associates offered a webinar titled: Connecting Health Insurance and Agricultural Viability: Helping Farmers and Ranchers Address Health Related Risk. In the first section of this webinar, Shoshana Inwood addresses findings from the USDA AFRI grant-funded study. She is joined by other professionals who introduced tools to use with the farming and ranching population. Most of those tools are included in the resource section of this Guide.

https://www.youtube.com/watch?v=NIPM_wZZmDQ



FINANCIAL CHALLENGES

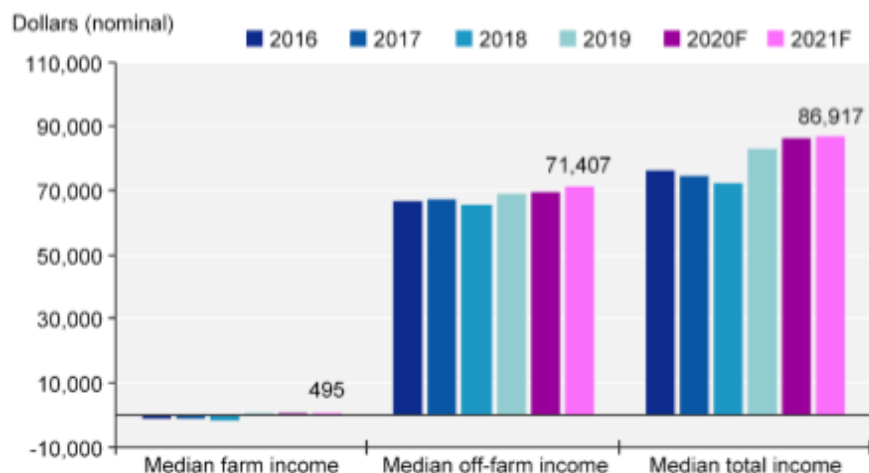
In January 2021, the National Farmers Coalition and the American Farm Bureau released the results of a survey of 2000 adults in rural areas conducted in December 2020 (Morning Consult, 2020). The study compared results to a similar study conducted in April 2019. Across all adults, 60% said they were concerned about financial issues; 51% about the future; 54% of losing the farm; and 50% said the farm economy was impacting farmers' mental health

Farm Income. From 2016 to 2018 annual median farm household income fell from \$76,250 to \$72,481. In 2019, income rose to \$83,111. In 2020 and 2021 a slight rise was forecasted \$86,086 and \$86,917 respectively. This information is documented by the 2021 USDA Economic Research Service, Farm household income and characteristics: Principal farm operator household finances, 2016-21F and can be found at <https://www.ers.usda.gov/data-products/farm-household-income-and-characteristics/>.

However, a comparison of median farm income, off-farm income and total income of the farm operator shows the reliance of off-farm income for households to be financially secure and farms to be viable. As shown in **Figure 1**, during the years 2016-2018 median farm income was below zero and showed a value slightly above zero for years 2019, 2020 and forecasted

Figure 1

Median farm income, median off-farm income and median total income of farm operator households, 2016-21F



Note: F = forecast.

Source: USDA Economic Research Service and National Agricultural Statistics Service, Agricultural Resource Management Survey. Data as of February 5, 2021. <https://www.ers.usda.gov/data-products/chart-gallery/gallery/chart-detail/?chartId=89556>. In the public domain.

Table 1 provides the principal farm operator household finances over a five-year period. Despite the median income data for all farms, additional data from the Economic Research Service indicates that from 1996-2020, roughly 75% of just over 2.1 million farms had gross sales of less than \$50,000. This information is from another USDA, Economic Research Service report from December 2020 entitled Farm household income and characteristics: All farms and family farms, by farm size class (gross sales), 1996-2019 and can be found at: <https://www.ers.usda.gov/data-products/farm-household-income-and-characteristics/>

This suggests that the majority of farms are not providing a living wage for a family of four from the farming operation. In 2019, the living wage in the United States was \$16.54 per hour, or \$68,808 per year, before taxes for a family of four with two working adults and two children (Glasmeier, 2020).

Table 1

Principal Farm Operator Household Finances, 2016-21F

Item	2016	2017	2018	2019	2020F	2021F
Number of family farms	2,027,269	1,989,574	1,979,368	1,967,617	1,967,617	1,967,617
Income, median dollars per household						
Farm income	-940	-1,035	-1,735	296	767	495
Off-farm income	66,468	67,500	65,841	68,750	69,784	71,407
Earned Income	40,000	43,225	37,500	39,574	38,527	38,255
Unearned Income	24,962	19,000	20,404	27,225	28,078	28,953
Total household income	76,250	74,707	72,481	83,111	86,086	86,917
U.S. household income*	59,039	61,372	63,179	68,703	NA	NA

Note: F = forecast; NA = not available.

*Estimates of U.S. household income are produced by the U.S. Department of Commerce, Bureau of the Census, Current Population Reports, P60-263, Income and Poverty in the United States: 2019 (and earlier editions).

Adapted from USDA, Economic Research Service and National Agricultural Statistics Service, 2016-19 Agricultural Resource Management Survey. Data as of February 5, 2021. <https://www.ers.usda.gov/data-products/farm-household-income-and-characteristics/> In the public domain.

Though actual data isn't available for 2020, off-farm income, the loss of wages and salaries earned off the farm is most likely the result of a decline in farm household income because of COVID-19. This is according to the USDA, Economic Research Service analysis of Farms and farm households in February 2021. This information can be found here: <https://www.ers.usda.gov/covid-19/farms-and-farm-households/>.

The extent of the loss is forecast to be minimized by the stimulus checks offered through the coronavirus relief plan legislation known as the CARES Act. Diving a bit deeper, another 2019 ERS report reviewed the farm household income and characteristics of principal farm operator households by major occupation in 2019 and showed that 18% of those were full-time farmers/ranchers and 6% of those who had off-farm income lived in poverty. This information can be found here: <https://www.ers.usda.gov/data-products/farm-household-income-and-characteristics/>

Examples of off-farm income include:

- Self-employment
- Off-farm wage/salary jobs
- Public and private pensions
- Interest and dividend payments
- Asset sales
- Social Security payments
- Other sources of income

The 2019 Farm Labor Survey (FLS) conducted by USDA's National Agricultural Statistics Service (NASS), indicated that average real farm wages for nonsupervisory crop and livestock workers (excluding contract labor) were \$13.99 as compared to the nonfarm economy for private-sector nonsupervisory occupations wage of \$23.51. Average hourly wages for hired agricultural managers stood at \$24.77 in 2019, up 6.2% from the year before. Supervisors averaged \$21.34 per hour, up 4.9%. This information can be found here: <https://www.ers.usda.gov/topics/farm-economy/farm-labor/#employment>. This comparative data suggest that level of assigned responsibility of the farmworker determines if they are earning a living wage as described above.

According to the USDA Economic Research Service's December 2020 Bulletin Number 2020 titled America's Diverse Family Farms 2020, women are operators in more than half (51%) of all farming operations; principal operators of 14% of operations; with 37% of operations having female operators not identified by the respondent as a principal operator. Bulletin 2020 can be found here: <https://www.ers.usda.gov/webdocs/publications/100012/eib-220.pdf?v=8046>

A May 2020 study conducted by the Rand Corporation surveyed 2000 individuals and found that about 30% of households representing all levels of income were having trouble paying their bills due to the COVID-19 pandemic. The problem was highly concentrated among low-income households. Even so, many households, whose income had remained stable, reported that they were struggling to pay bills. Of those, about 40% of non-Hispanic black households and nearly 50% of Hispanic households reported problems paying their bills,

compared to 21 percent of non-Hispanic white households. And, among high-income households, 25% of those who had lost income reported they were struggling to pay their bills (Carman & Nataraj, 2020).

Farm Debt as a Stressor. Research has demonstrated a relationship between debt and mental health disorders (Meltzer et al., 2013). Farm debt indicators suggest that the ability for farms to pay debt is weakening. Figure 2 shows that farm real estate debt is expected to reach \$287.4 billion in 2021, a 3.1% annual increase in nominal terms and a 1.2% rise in inflation-adjusted dollars.

Farm real estate debt as a share of total debt has risen each year since 2014 and is expected to account for 65.1% of total farm debt in 2021. Farm non-real estate debt is expected to decline slightly by 0.6 % in nominal terms to \$154.3 billion in 2021. Since its peak in 2014, non-real estate inflation-adjusted debt has decreased 6.8%. This data comes from February 2021, USDA, Economic Research Service Assets, debt and wealth: Farm sector equity (wealth) forecast to remain flat in 2021 information that can be found at <https://www.ers.usda.gov/topics/farm-economy/farm-sector-income-finances/assets-debt-and-wealth/>.

Solvency is a measure of the ability of a farm or ranch operation to satisfy debt obligations when due. The trend for typical debt-to-equity ratios shows a continued increase from 2012 to the forecasted 2021 ratio of 16.13%. Additionally, the debt service ratio measures the share of the sector's value of production required to service farm debt payments. The debt service ratio is forecast to be 0.25 in 2021, slightly higher than the 2020 forecast of 0.24. This information is also from the February 2021 USDA, Economic Research Service Assets, debt and wealth: Farm sector equity (wealth) forecast to remain flat in 2021 found at <https://www.ers.usda.gov/topics/farm-economy/farm-sector-income-finances/assets-debt-and-wealth/>.

Farm bankruptcy is increasing. Recently released caseload statistics from the U.S. Courts indicate that Chapter 12 family farm and family fishery bankruptcies totaled 552 filings during 2020, down 43 filings, or 7%, from 2019, but also the third highest over the last decade (Newton & Battram, 2021). These data support the conclusion that solvency and the ability to service debt are becoming more difficult for some farm operators.

Other Financial Stressors. In addition to income and debt, other financial stressors impact multiple generations of farmers and farm families. Included here are stressors of farm transfer, access to land, costs of health insurance and student loans, and relationships. While most of these are introduced in previous sections of this guide, below are some additional finance-related stressors.

FARM TRANSFER

The process of farm transfer is an additional stressor that is partially financial. It is a complex process that requires attending to legal issues and paying for the development of estate planning documents, protecting the viability and integrity of the farm, and maintaining positive familial relationships. It is also connected to the financial security of principle operators in retirement. If retiring principal operators have not saved, or adequately saved, for their retirement years, they are less likely to be able to transfer the farm to family members or others. They will likely be reliant on farm income for living expenses and health care costs in retirement. Additionally, small profit margins, property taxes, solvency and debt will influence farm operators' abilities to transfer the farm to younger generations (Pitts et al., 2009).

Only 36% of farmers and farmland owners have an estate plan, according to one study. Of those, 82% did not have an exit strategy; 88% indicated they did not have financial plans for their retirement (Ruhf, 2018).

Beginning and Young Farmers

According to the 2017 Young Farmers Coalition survey, 38% of respondents who are currently farmers indicated land access is a significant challenge due in part to cost. Respondents noted other significant challenges as costs of health insurance (50%) and student loan debt (29%) (Ackoff et al., 2017). Clearly, the costs of start-up, debt that precludes start up loans, and cash flow place financial pressures on young farmers.



Relationships

While relationships themselves can be a stressor, distress about money affects most relationships. Almost a third of adults with partners report that money is a major source of conflict in their relationships. A survey found that for those living in lower-income households (less than \$50,000 per year), financial distress stands in the way of a healthy lifestyle. This data suggests that those with financial stressors put their health in jeopardy (American Psychological Association, 2015).

Financial stressors manifest as physical and psychological health problems, behavioral change, and diminished decision making. When it comes to farming, poor financial decisions can impact the well-being of not only the individuals within the family but the farm family business and operation as well as the community in which the farm is located.

Farm and Farm Family Risks

Human risk management is one of the five areas of agriculture risk management. The others are production, marketing, financial (as it relates to enterprise and family), and legal. Programming and interventions focus

on eliminating, reducing, or minimizing risk through the use of best practices that are grounded in theory and practice.

Human risk includes risks to the physical, mental, and emotional, and social health and well-being of the farming population. The previous section outlined some of the statistics and stressors as they relate to a human risk area. Safety, stress management, wellness, and other risk management programs help mitigate some of the factors that create increased stress for farmers and their families, and will hopefully improve the vitality of the farm.

In the human risk area, farm and family financial plans come together. Farm operators and family members need to invest resources (financial, time, mental, and other resources) in developing risk management plans that lessen the risks of illness (mental and physical) and injury on farming operations and the family. Risk management plans need to comprehensively address access to, and payment of, health care, perhaps by building a combination of savings and health insurance.

An equally important human risk management strategy is to prepare for and develop strategies that address risks associated with other human or social factors such as 1) family dynamics, including multi-generational dynamics; 2) family and family member goals and aspirations; 3) family communications; 4) relationships with community members and professionals who can support farms and farm families; and 5) social cohesion of the community.

Depending on the dynamics, these factors could be part of the ordinary or extraordinary stressors within the family or be resilience factors that help protect the family and farm against a crisis. If these human capital and social factors are at odds, the health and well-being of the family and the farm can be affected negatively. The following list summarizes the impacts of farm family stressors on farmers and families.

- Inhibited decision-making and adoption of agricultural practices
- Physical and mental chronic health problems among family members
- Depression, anxiety, despair, and suicide
- Injuries
- Opioid and alcohol misuse, addiction and, overdose
- Loneliness and social isolation
- Lack of access to health care
- Postponement of preventive care
- Concern of inability to pay for medical care costs
- Juggling on and off farm work to get and pay for health insurance
- Fear of losing their farm as a business, a home and a family legacy



FROM THREAT TO OPPORTUNITY: THE POWER OF RESILIENCE

How individuals, families, and businesses handle stressful demands and changes will, in part, determine outcomes or impact. Handling demands or changes is influenced by the perceived meaning of the demands and changes and available internal and external resources or capital (Patterson, 2002 April; 2002 May).

For some, the demands and changes are perceived as negative--threatening the status quo, life, and legacy of the farm and farm family. To them, stressors and resulting distress are risks to the farm business and the farm family. For some, the demands and changes are perceived as an opportunity to change the business, its products or processes, or family functioning.

Farms play important roles in not only producing products, protecting the environment, and contributing to the economy, but in contributing to social cohesion, the culture of rural communities, and providing food for the USA and beyond.

No matter the discipline, the central theme of the concept of resilience is the ability to recover from, or adjust to, change with its accompanying stress and/or crisis. For some, it implies getting back to conditions as they were before the change; for others, it is using change as an opportunity to adapt or become something new. For all, resilience is a protective and recovery resource or capital for risk management.

Farms and farm families need a reservoir of resources to survive the ordinary and extraordinary stressors of life and maintain their mental, emotional, physical, social, and financial health and well-being. They need the capital of resilience.

Resilience as a capital is gained through resilience processes. The science behind resilience continues to evolve, as does the meaning of terms. Family stress, resilience, and behavioral sciences look at the state of resilience and the process of developing resilience (Patterson, 2002, April; 2002 May).

For this Guide, we use the following definitions:

Resilience - capital available to individuals, families, communities, and businesses to respond to demands and challenges of change.

Resiliency - the ability to draw on the capital of resilience in response to risks produced by demands and challenges. These are the actions taken to become resilient.

Resilience is an asset, a capital, gained through processes of resiliency.



VIDEO

A brief history of resilience is contained in this 2020 Stockholm Resilience Centre 15-minute video titled: What is Social-Ecological Resilience? Emphasis is placed on socio-ecological resilience and the area of resilience thinking in complex ecological systems. With visuals accompanying key points, the speaker explains social-ecological systems resilience in easily understood terms.

https://www.youtube.com/watch?v=k_KQCqcb7EQ



Individual and Family Resilience

Resilience is a dynamic process and a measure of health, or well-being and vitality, for farm enterprises and the people associated with the farm. The extent to which an individual or family is resilient during tough times is a combination of the individuals in the family and extended family members and the communities with which they interact (communities of place, interest, and/or beliefs).

Resilience science contains credible evidence about how individuals and families can prevent and recover from stress and crises--how they get through tough times and challenges (McCubbin et al., 1997; Patterson, 2002 April and 2002 May; Braun, 2019; Walsh, 2007, 2009, 2012a, 2012b, 2012c, 2013, 2015, 2016a, 2016b). However, research on resilience among individual farmers is minimal. In a study of nearly 10,000 published research projects between 1979 and 2017, most were found to be focused on stress (42%); suicide (33%); depression (33%); and only 6% on resilience (Hagen et al., 2019). These findings led the authors to recommend that resilience be taught and increased among farmers with accompanying research on how resilience could be best taught.

While resilience can be specific to individuals and families and the type of stress or crisis, research shows that such characteristics of family resilience as harmony, communication skills, family time, financial management skills, optimism, hardiness, support networks, and flexibility can buffer the impacts of distress (Danes, 2014; Defrain, 1999). Evidence has shown that positive emotions can help people regulate distress (Folkman, 2008). Each of these resilience factors can be strengthened when individuals and their immediate and extended families are aware of the role the factors and family members play in positive outcomes for the farm business and family living.

Psychology and family researchers have identified individual, adult resilience recovery characteristics and skills present after individuals experience tough times such as traumatic events and setbacks in business, personal, and family life (American Psychological Association, 2012). These recovery characteristics and skills include:

- Self-compassion (positive adaptation to a crisis or stress)
- Hardiness (the belief one can get through tough times)
- Self-control (the belief that you have some control—if only of your response) and
- Managerial skills (organization, decision-making and establishing priorities (Danes, 2014).

Though there is no single resilient type of person or family, a capacity for healthy functioning and positive emotions is part of a pattern. Resilience can help protect individuals from a variety of mental and emotional health conditions such as depression and anxiety and can help offset their impact when present. Positive emotions promote adaptive flexibility and teach proactive responses to opportunities during less stressful times (Fetsch, 2012).

Relationship resilience is particularly relevant to understanding risk and resilience from a multi-system perspective (Darnhofer, 2014; Darnhofer et al., 2010; Darnhofer et al., 2016). Relationship resilience requires that professionals and the farming population acknowledge and draw on reciprocal relationships between and among people who work on, or for, the farm to reduce risk and develop resilience prior to and during, times of intense stressors. Relationships include multiple family members, people in communities, beneficiaries of the farm's productivity, and those making policy decisions about farming.

Relationship resilience acknowledges that getting through tough times is not just an issue for each farm and farm family, but also for rural areas, their communities, and the broader society. It is about availability and the accessibility of community support. Public policy can be a cause of stress and a contributor to resilience. For example, farmers cite changing government regulations as a source of stress. They also benefit from policy that provides protection (e.g., crop insurance) or subsidies. The policy arena affects farming enterprises, communities, and farming populations.

Farming System Resilience

Specific farm and agriculture stress and resilience literature is limited. Some key concepts are found in the literature on sustainability and agricultural generativity described as a system of applying principles and practices that improve the physical environment, yield, resilience, and vitality for farming communities (Soloviev & Landua, 2016).

Farming systems are accumulating economic, ecological, and societal challenges (Meuwissen et al., 2019). These are challenges to resilience and need to be addressed by multiple systems in which they are embedded.

Research released in 2019 found that performance of farming systems, and resilience capacities and attributes can be measured (Soloviev & Landau, 2016). Other research (Darnhofer et al., 2016) reinforces the need to view farm resilience from three points of view:

1. Roles of farm types and dynamics, for example, size of the farm, number of employees, diversity of production, etc.
2. Primary and secondary actors including farmers, agency personnel, and social forces
3. Relationships between structure, capacity to act, physical environments, and social processes

Other studies of farms as businesses, and especially of new ventures, document the need to focus on resilience and on personal, business, community, and policy relationships to increase the likelihood of a viable business and a healthy family (Yang & Danes, 2015).

The challenge of the 21st century is not to increase agricultural productivity but to strengthen the resilience of our food production in the face of ever-increasing stress on systems.

Community Resilience

Individuals, families, farms, and other businesses are embedded in communities of place, interest, and practice. What happens in those communities impacts their members and other communities. The resilience of farming communities is the capacity to absorb stressors and collectively take action. That capacity will not only affect the community but the resilience of the farming population and farming enterprises in that community. For this guide, community resilience is defined as "... the capability to anticipate risk, limit impact, and bounce back rapidly through survival, adaptability, evolution, and growth in the face of turbulent change (Patel et al., 2017 p.10.)

There are many lists of traits of resilient communities. These summarized traits, if fully functioning, should enable a community to prepare, prevent, respond to, and recover from shocks and stresses (Arup, 2011):

1. Can assess, manage, and monitor risks
2. Can identify problems and establish priorities
3. Is flexible, resourceful and can accept uncertainty and respond proactively to change
4. Has strong physical infrastructure systems
5. Values, protects and enhances natural assets
6. Has strong, well-connected relationships to access support

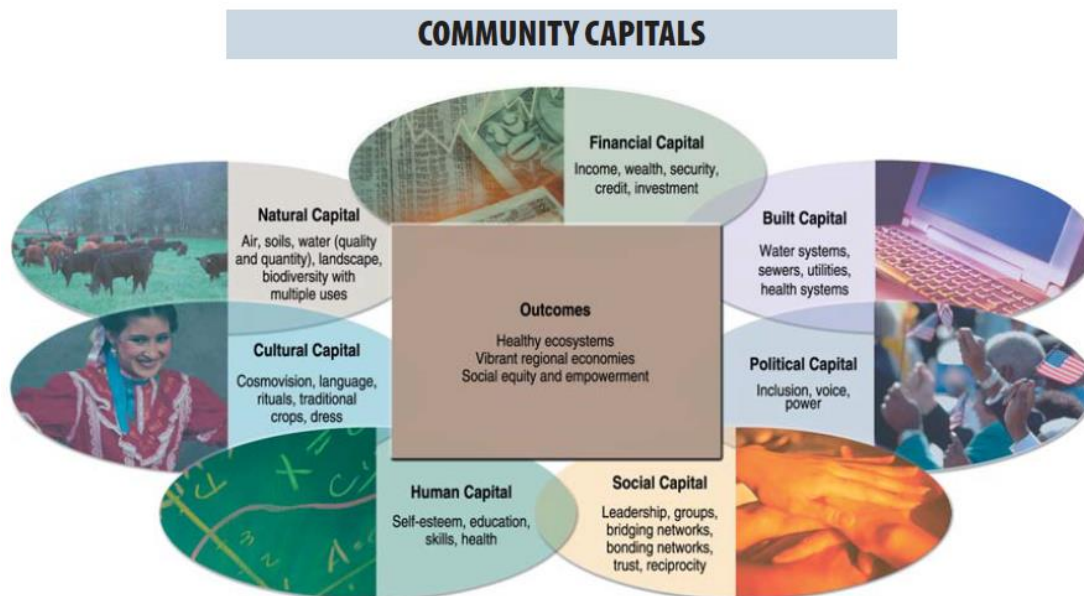
Community resilience can be viewed from the social-ecological perspective with relationships and actions distributed within and across levels within levels. Resilient communities find ways to adapt through feedback, shared memory, reacting collectively to disruptions, and seeing windows of opportunity (Berkes & Ross, 2013).

Resilient communities identify and develop strengths or assets; attend to connections between people and place, values and beliefs; encourage support networks, collective problem solving, collaborative governance, diversification, and leadership. These communities can also handle divisions within the community.

And though the research isn't clear about how communities become resilient (Bosher & Coaffee, 2008), there is evidence that active participation in the public work of communities, a focus on building social capital and capacity to address stressors and disruptors and coming together before and during crises leads to the building of community resilience (Woods, 2015). The use of a community capitals or community resilience model based on a systems framework can help foster public policy, community engagement, and an approach to building and rebuilding the assets of a community (Flora et al., 2005).

Figure 3, titled Community Capitals, illustrates the interrelated nature of seven categories of capitals: Financial, built, political, social, human, cultural, and natural. In the center are three outcomes: healthy ecosystems, vibrant regional economies, and social equity and empowerment.

Figure 3:



Source: Flora, C.B., Emery, M., Fey, S. & Bregendahl, C. (2005). *Community capitals: A tool for evaluating strategic interventions and projects*. 1. North Central Regional Center for Rural Development, Iowa State University. <https://naaee.org/sites/default/files/204.2-handout-community-capitals.pdf>

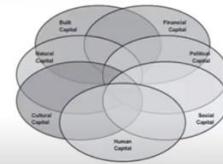


In this 2017, 10-minute video, Professor Gregory Fulkerson explains the Community Capitals Framework, developed by Drs. Cornelia and Jan Flora and associates. He also shows and explains his Sustainable Capitals Pyramid as a way to demonstrate a hierarchical relationship between the capitals.

<https://www.youtube.com/watch?v=HQtHTuvtUGo>

Community Capitals

Figure 1. Community Capitals



Source: Flora and Emery (2008)



In this 8-minute video, produced by Carol Salomon of the McKay School of Education, viewers go into a community to see the Community Capitals Framework applied.

<https://vimeo.com/23233915>



PODCAST

Danielle Swallow and Chris Petrone of Sea Grant Delaware share how they incorporate community resilience in their work in a 30-minute podcast. In addition to stories of how people work together after a disaster, they provide ideas for building resilience in a community, a family, or an individual.


<https://militaryfamilieslearningnetwork.org/podcast/community-resilience-ep-3/>

Resilience Thinking and Doing

Resilience thinking and doing consider proactive strategies involving multiple capitals or assets in an integrated way. Resilience thinking strategies would balance short-term and long-term profitability, health, vitality, and adaptability with demands and changes that may cause increased risk, stress, and for some, crisis (Danes, 2014; Darnhofer, 2010; Darnhofer, 2014; Darnhofer et al., 2010; Darnhofer et al., 2016).

Farm and family resilience thinking can help build protective and resilience capital, resources, or assets to prevent, manage, and recover from stressful situations and crises. By using resilience thinking to gain multiple insights into farm management practices, farmers may be better able to balance short and long-term costs and benefits to the health and financial well-being of the farming enterprise and that of the farm family (Yang & Danes, 2015).

Resilience thinking and doing can also be practiced by professionals who support the population. In Extension, professionals in agriculture, family and consumer science, community development, and 4-H can practice resilience thinking and doing as they develop, deliver and evaluate their programs. Communities can practice resilience thinking and doing when they collaborate to address issues and problems impacting the community as a whole and sectors of the community.




VIDEO

Seven principles for building resilience in social-ecological systems are illustrated in this narrated 3- minute video titled Applying Resilience Thinking. The 2019 video is produced by the Stockholm Resilience Centre at Stockholm University.

Site: <https://www.stockholmresilience.org/research/research-news/2015-02-19-applying-resilience-thinking.html>

Video: <https://youtu.be/khep7hHeZG8>



Building Resilience - Social Ecological Systems

Efforts to change behaviors and conditions will have limited impact if the focus is only on individuals. An example of this type of intervention is Extension's stress management programming. While important and likely necessary, it is not sufficient to prevent or reduce the impact of stressors. A study of one state's response to the 1980's farm crisis emphasized the need to go beyond the farmer as a victim to the environments, or systems, in which farmers are embedded to make a change (Delind, 1986).

In a study of stress and health over a 50-year time period, the researcher concluded that individuals with high levels of stress mastery, self-esteem, and/or social support are able to reduce the impacts of stressors on health and well-being (Thoits, 2010). The research also provided evidence that structural conditions (i.e., food and health access, discrimination, trade policy) put people at risk, requiring interventions at community and policy arenas. In a Midwest study of farming stress, key informants said that a number of acute and chronic stressors were structural and outside of individual farmers' control (Henning-Smith et al., 2021). These findings reinforce the need for a systems approach to preventing and mitigating stressors.

Individuals are embedded in multiple systems or environments that affect their ability to prevent or adapt to stressors. Their success, in part, depends on the extent to which these systems are supportive. The Centers for Disease Control and Prevention (CDC) and others are providing credible evidence that an approach they call PSE--policies, systems, and environments--works (Honeycutt et al., 2015). Extension programming, intended to prevent or mitigate risk and resilience associated with stressors of the farming population, will benefit from incorporating social determinants of health into a sociological framework.

Healthy People 2030 (<https://health.gov/healthypeople>) is the newest in a series of 10-year frameworks developed to help the people of the United States achieve this vision: A society in which all people can achieve their full potential for health and well-being across the lifespan. The framework uses social determinants of health as an approach based on the concept that individuals are embedded in systems that help and hinder the achievement of their health and well-being. **Figure 4** shows the five domains of determinants surrounding an individual (Office of Disease Prevention and Health Promotion, n.d.)

Figure 4

Social Determinants of Health



Source: Healthy People 2030, U.S. Department of Health and Human Services, Office of Disease Prevention and Health Promotion. Retrieved [March 8, 2021 accessed], from <https://health.gov/healthypeople/objectives-and-data/social-determinants-health> In the public domain.

Human or social ecology and agroecology are systems focused on interactions of multiple systems. Our risk and resilience sociological framework incorporate both and uses the following definitions:

Human or social ecology-- the study and application of relationships between people and their natural, social and built environments (Atkiss et al., 2011; Bronfenbrenner, 1994).

Agroecology--the study and application of a holistic, systems-level understanding of food systems sustainability (Gliessman, 2015).

Human or social ecology intersect with agroecology when the human, cultural, and social, values, and practices interact with agricultural practices. A socio-ecological theoretical approach moves the focus of interventions from the personal (stress and farm management) to the public (prevention or mitigation of stressors; enhancement of farming practices).

A socio-ecological approach would not only teach individuals how to prevent and manage stress and farms but would incorporate all the following:

- Identify and integrate the roles of families, the community, organizations, and public policies in supporting farms and the family
- Develop a stronger position for the farm and family by building the capital of resilience and the ability to apply the processes of resilience
- Develop support and actions through the public policy arena

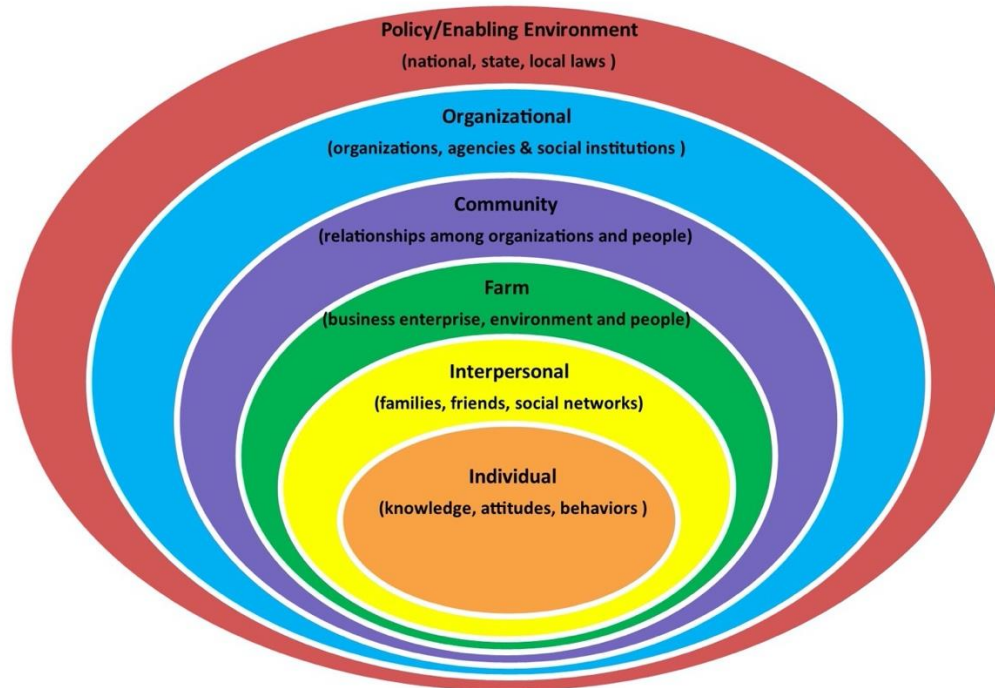
Responding to stressors among farmers and farm family members is typically thought of as personal. Responses move into the public arena when impacts go beyond the family to farm businesses, communities, organizations, and policies. The farming population can advocate for policies and supports to maintain their health and that of their farm business. Evidence of the public nature is found in headlines and stories carried by mass media and political cartoons. Since 2017, multiple reports about farms and farmers under stress and suicides have publicized the situation. Solutions need to come internally to individuals and families and externally from communities and beyond.

Figure 5 illustrates the interrelated nature of multiple systems in a socio-ecology model. What differentiates this model from others is the addition by the authors of the farm as a system. We added this environment to illustrate how farmers and farm families are embedded in a farming system and how the farm is embedded in community, organizational, and policy environments.

Years of human stress and health research point to the need to combine simultaneously teaching individuals and families how to manage stress, enabling professionals and community members to provide support, and adopting public policies that address external environments that produce distress (Braun, 2019).

The Centers for Disease Control (CDC) encourages the use of a social-ecological model to permit a multi-systems approach to change (Centers for Disease Control and Prevention, 2021; Honeycutt et al., 2015). A multi-systems approach can provide a framework for considering options for preventing and mitigating stressors and reducing distress.

Figure 5: Farm and Farm Family Risk and Resilience Socio-Ecological Model



Source: Braun, B. & Pippidis, M. (2020, January). Farm and farm family risk and resilience guide for Extension educational programming. University of Maryland Extension and University of Delaware Cooperative Extension. <https://www.udel.edu/academics/colleges/canr/cooperative-extension/personal-economic-development/agribusiness/>

After extensive searching, we were unable to locate a socio-ecological model that included the farm. Nor were we able to find integrated programs focused on building resilience within individuals, families, farms, and communities. We created **Figure 5**, the Farm and Farm Family Risk and Resilience Socio-Ecological Model, to integrate the farm as one of the environments in which the farming population is embedded. This model, coupled with resilience thinking and doing, can serve as a frame for education, research, and professional services by Extension and partners for actions and provide a way of organizing responses and reporting evidence of impact.

We created the farm and farm family risk and resilience socio-ecological model to integrate the farm as one of the environments in which the farming population is embedded.

PUBLIC RESPONSES TO PRIVATE PROBLEMS

Building resilience at the individual, family, and farm levels of the socio-ecological model outlined in Figure 5 will need support from the “outer levels.” Organizations, communities, and public policy can work across lines to encourage resilience thinking and build resilience for our farming populations and the communities in which they reside.

Organizations can be part of local communities but may be county, regional, state, multistate, or nationally based. Organizations can use their influence among members and outside the organization to address issues impacting the farming population and farm businesses. Examples from agriculture include the American Farm Bureau, Association of American Indian Farmers, Farm Aid, National Black Farmers Association, National Farmers Union, National Latino Farmers and Ranchers Trade Association, National Young Farmers Coalition, Traditional Native American Farmers Association, and Women in Agriculture. Other organizations with expertise include the American Public Health Association, the National Council on Family Relations, organizations representing, for example, consumers, psychologists, social workers, nutritionists, financial counselors, therapists, health care, and members of communities of faith.

Another example is that of land-grant universities engaged in research and Extension education about health and well-being (Rodgers & Braun, 2015). Multiple articles in the Journal of Extension provide evidence of programming. A recent article in the American Journal of Public Health addressed Extension's historical and contemporary role as a force for healthy rural communities (Buys & Rennekamp, 2020).

Land-grant universities can call attention to issues, conduct research, and work with local communities through their outreach and/or Extension capacity, and produce materials such as those documented by a study in the North Central Region (Inwood et al., 2019). Cooperative Extension across the nation has responded to address multiple facets of stress across the farming population as evidenced by programs posted on websites and articles in such journals as the Journal of Extension and through Connect Extension (<https://connect.extension.org/>). Many of the tools developed by Extension educators are included in this guide.


Extension as a system can bring people from multiple disciplines together through professional development, community engagement, and direct farmer and family programming. Within Extension, professionals from multiple disciplines and program areas can work together for greater impact.

Communities can support farms, farmers, and farm families by removing stigma and lack of awareness or understanding about challenges facing the farming population and by providing easy access to care (Woods, 2015). Communities can:

- Feature articles in local newspapers
- Provide access to health care, including mental health care
- Conduct conversations or forums to address the health and vitality of the farming populations and their farms and the community as a whole
- Collect information about stressors and their impacts among the farming population
- Explore existing and potential public policies that add to, or relieve, some stressors.

Communities can come together to support the farming population using a variety of methods: facilitated discussion, dialogue, and deliberation. Two well-documented approaches include the Charles F. Kettering Foundation's National Issues Forums and Strategic Doing launched by Purdue University. Both have a history of demonstrated success in understanding and acting on issues. Both bring diverse members of a community together to explore and/or determine actions.

The National Issues Forums use a moderator to guide participants through an issue that has been named and framed. Each issue guide contains at least three options for addressing the issue with possible trade-offs and a measure of the shift in thinking (Mathews, 2016). The Strategic Doing process was created to teach community members how to quickly create agile collaborations across groups and individuals such that together they can achieve strategic, measurable outcomes (Morrison, 2013).



VIDEO

This 90-minute, 2017 webinar explains how to use the national issues forums approach to engaging diverse members of communities in dialogue and deliberation.

<https://www.youtube.com/watch?v=WvL5HydT228>




NATIONAL ISSUES FORUMS


Speakers: Ellen M. Knutson, Research Associate, Charles F. Kettering Foundation and Adjunct Assistant Professor, iSchool, University of Illinois

Bill Muse, President Emeritus, National Issues Forums Institute and Senior Associate, Kettering Foundation

Amy Lee, Program Officer, Charles F. Kettering Foundation

BECAUSE OUR DIVIDED NATION NEEDS CONVERSATION MORE THAN EVER.



VIDEO


Ed Morrison, co-author of Strategic Doing, briefly explains what the process is in this 5-minute video produced by the Purdue Agile Strategy Lab.

Site: <https://strategicdoing.net/intro/>

Video: <https://vimeo.com/216240851>


What is Strategic Doing?

A video introduction






Agile Strategy in a Nutshell

from Ed Morrison



INNOVATION... POWERED BY STRATEGIC DOING AT **PURDUE**

Public Policy can be used by public policymakers to address short and long needs of farms, farm families, and farming communities. For example, the Minnesota Department of Agriculture subsidizes counseling for farms through its Minnesota Rural Mental Health program and nine health advocates. Due to increased need, a second position was added in 2019. Wisconsin authorized money to focus on the mental health needs of farmers during their 2019 legislative session.

A 2018 federal public policy example was the authorization of the Farm and Ranch Stress Assistance Network as part of the Agricultural Improvement Act. In 2019, Congress appropriated funds for a two-year start-up phase. The establishment of multi-disciplinary networks across regions, to address health and wellness began with the release of contracts in the four regions in 2019. Networks became operational in early 2020 and will continue through 2023. The network will need to be reauthorized in the 2023 Farm Bill. Research on the effectiveness of the networks will be helpful to inform reauthorization decisions.

Another federal public policy, Seeding Rural Resilience, was introduced in 2019 with the intent to curb the rise in suicides among the farming population. One of the three provisions directs the USDA Secretary to work with state, local, and non-governmental stakeholders to determine the best practices for responding to farm and ranch mental stress.

In December 2020, Congress passed the Consolidated Appropriations Act, 2021, which included \$28M for state agriculture departments to fund programs aimed at confronting farmers' mental health crisis and stress. The Act also provided \$10M to the USDA National Institute for Food and Agriculture for the Farm and Ranch Stress Assistance Network. More information about the Network is located at <https://nifa.usda.gov/program/farm-and-ranch-stress-assistance-network-frsan>

THEORY AND STRATEGIES BEHIND RESPONSES

Policymakers are responding to stressors affecting the farming population, as are communities and organizations. They share with Extension educators and partners the desire to make good decisions about what policies, interventions, and programming do for the farming population. To make wise decisions, professionals can turn to, and apply, appropriate science to policies, program content, and methods of delivery and assessment.

Extension educators and partners want to be strategic and offer education and interventions that are effective. The likelihood of effectively preventing or reducing negative impacts of stressors increases when responses are integrated, multi-disciplinary, theory-driven, and evidence-based.

An integrated, multi-discipline, social-ecological systems perspective can guide planning, implementation, and evaluation of individual and group programs that focus on the farm and the people of the farm. A pilot test of an integrated program based on resilience theory (McCubbin et al., 1997; Rosino, 2016; Jackman et al., 2015) for farmers in one state found that nearly 100% of participants thought such an approach by Extension was worthy of taxpayers' dollars.

To date, there is no one integrated theory for handling stressors across the farming population and on farms and farming systems. Thus, interventions need to draw from multiple theories.

Theories provide answers to such questions as to how to make programming effective. Many theories deserve consideration for Extension programming that are in use already that come from a variety of disciplines such as health, agriculture risk management, finance, theories of change, youth and adult development, empowerment, social cognition, planned behavior, communications, and assessment and evaluation. They are all relevant. A quick explanation of each is found in Extension Education Theoretical Framework with Criterion-Referenced Assessment Tools (Braun et al., (2014).

Educators who understand the process of change and innovation, and how people differ in their responses to each, will increase the likelihood that their educational programming will have impact.

This guide proposes that to address risk and resilience among farms and the farming population, Extension needs to expand its partnerships and collaborations across disciplinary and program area lines and develop multisystem approaches to private problems and public issues. As we reviewed the literature, we found six theories that we believe meet the “goodness of fit” test and are particularly relevant to our risk and resilience socio-ecological framework. The following theories meet these tests as they are:

- Logical
- Consistent with everyday observations
- Similar to those used in previous successful programs
- Supported by past research in the same or related areas

Change Theories

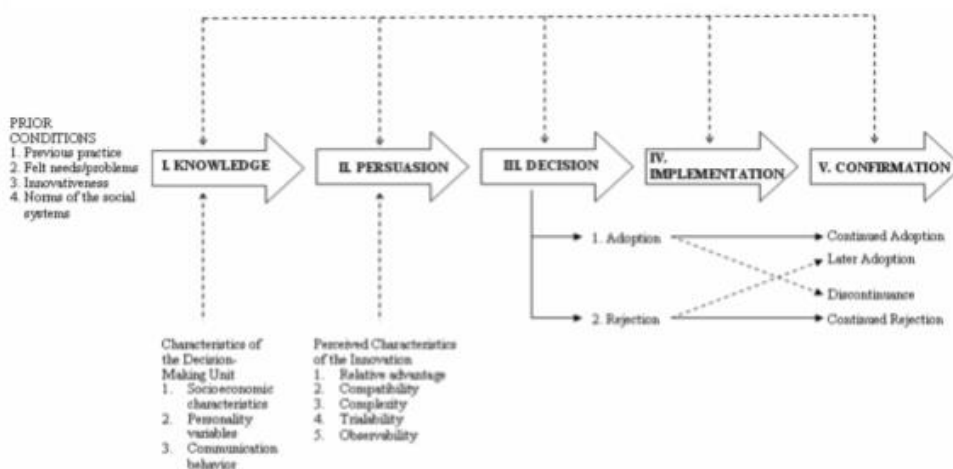
Change theories are fundamental for interventions intended to make changes in individuals, groups, institutions, and public policy. Change theories are essential to educational programming.

Change Theory One. In 1962, Evert Rogers published his pioneering research on the Diffusion of Innovations Theory to explain how, why, and at what speed ideas and technology spread. Rogers focused on the diffusion of information and innovation in agriculture.

Rogers conceptualized his theory as having four factors that influence diffusion in social systems (Rogers, 2003). He viewed the decision process as having five phases requiring different interventions at each stage, moving from knowledge to persuasion, decision, implementation, and confirmation. **Figure 6** is Rogers’ Model of Five Stages in the Innovation-Decision Process. By understanding these stages, Extension professionals can determine what kind of messages through which channels of communication will most likely move individuals and groups to act on an innovation.

Figure 6

A Model of Five Stages in the Innovation-Decision Process



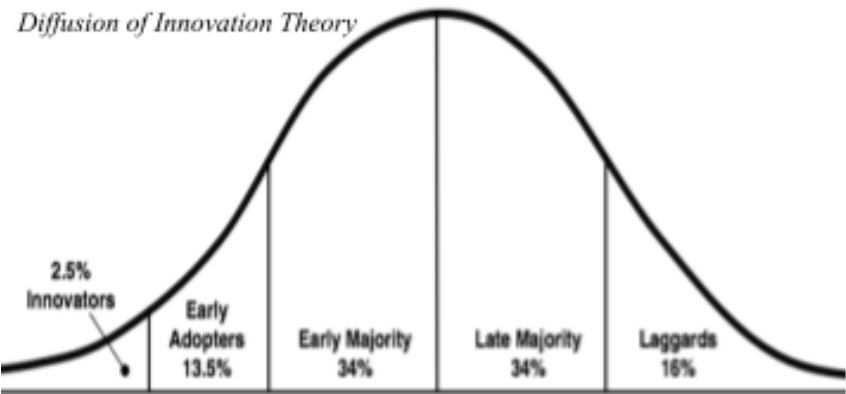
Source: Rogers, E.M. (2003). *Diffusion of Innovations* (5th ed). Free Press.

Rogers named five types of adopters of information and innovations. Adopters ranged from innovators to laggards—each playing a role in influencing adoption of innovations shown in **Figure 7**. Educators who understand the process of change and innovation and how people differ in their response to each, will increase the likelihood that their educational programming will have an impact. Rogers continued to update his work through the publication of the fifth edition of his book (Rogers, 2003).

Figure 7, Diffusion of Innovation Theory, explains the percentage of people likely to be at each stage of the adoption of an innovation. Understanding these categories and how to communicate with people in each stage can also increase the likelihood that people will adopt an innovation. The innovators and early adopters are also influential in getting the early and later majority to adopt innovations.

In the case of adoption of resilience thinking and doing, first Extension educators will be arrayed across the categories of responses. Innovators and early adopters will begin or expand their work to include risk and resilience, followed by the early and late majority.

Figure 7



Source: Rogers, E.M. (2003). *Diffusion of Innovations* (5 th Edition),158. Free Press.

You can see Dr. Rogers explaining diffusion research in this digitized version of a recording originally made in 1974. It was preserved and shown on Dr. Roger’s 80th birthday at the Everett M Rogers Mentorship Conference in Athens, Ohio, March 2011.



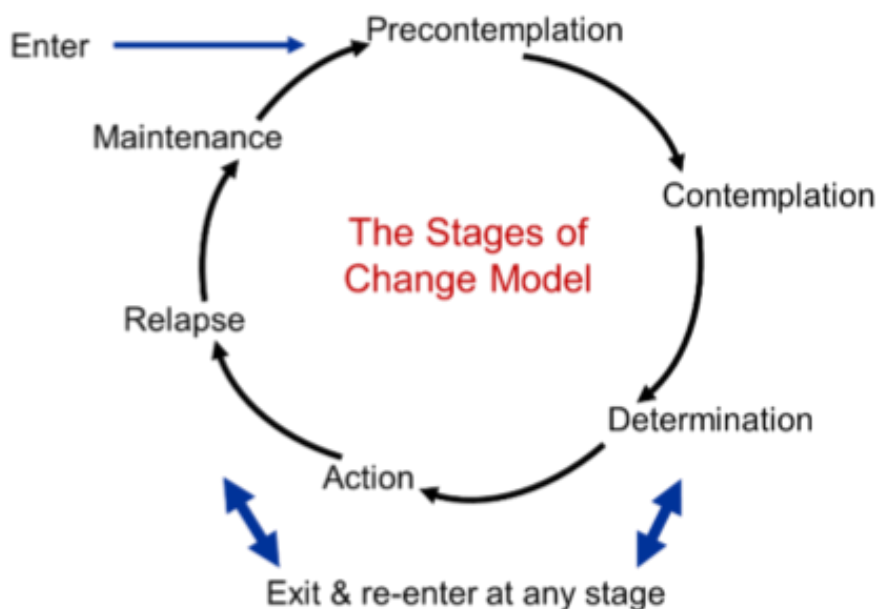
With a simple white board and pointer, Dr. Rogers effectively condenses his book into a few key concepts.

<https://vimeo.com/248027696>



Change Theory Two. Twenty years after Rogers' work, the Trans-theoretical Model of Behavior Change was introduced to public health (Prochaska & DiClemente, 1983). The model, shown in Figure 8, features five stages beginning with the first stage of pre-contemplation. The model moves to contemplation, determination, action, relapse, and maintenance of behavior change. It integrates multiple theories. The model visualizes stages people go through as they go through change. Understanding these stages could help Extension educators assess the individuals' status in their programs and better time their programming and its content to help people move through the states or stages.

Figure 8
Trans-theoretical Stages of Change Model



Source: Prochaska, J. O., & Di Clemente, C. C. (1983). Stages and processes of self-change of smoking: Toward an integrative model of change. *Journal of Consulting and Clinical Psychology*, 51(3), 390–395.
<https://doi.org/10.1037/0022-006X.51.3.390>

We choose these two change models because the Diffusion of Innovation Theory is grounded in agriculture and the Trans-Theoretical model in health. Professionals in agriculture, health, family sciences, and other disciplines can use either, both, or a modified version to plan educational programming that leads to short and long-term outcomes among individuals, families, and communities.



VIDEO

This 2013, 6-minute video is titled: The Trans-Theoretical Model of Behavior Change. Nathan Smith of the United Kingdom University of Birmingham explains the basics of the model in relation to physical exercise. The explanation could just as easily be applied to other topics taught by Extension professionals.

<https://www.youtube.com/watch/oO80XyBDrI0>



The innovation-decision process behind adopting our Farm and Farm Family Risk and Resilience Socio-Ecological Model will likely follow similar stages as the guide becomes known and used. Some innovative educators will adopt this approach to reducing stressors and increasing resilience quickly; others will need time to process before using the model and framework.

Risk and Resilience Theories

The risk and resilience theories included in this Guide come from multiple disciplines and use different models to illustrate ecological approaches. These models address individual, family, and business resilience and the ability for each to adapt to change. They should be combined with change theories.

Many stress and resilience theories focus on individuals. The following four theories expand the focus to include families in which individuals are embedded and the farming system.

Risk and Resilience Theory One. Patterson's Family Adjustment and Adaptation Response Theory (FAAR) (Patterson, 2002 April and 2002 May) focuses on interactions of family members and on outcomes that can result in resilience. It integrates a focus on stress among individuals and how they adapt with the unit of the family, and how they collectively adapt to stressors. When intra-family interactions are positive, they contribute to physical and mental health, well-being, and sustainability of business ventures and vice-versa if they are not favorable.

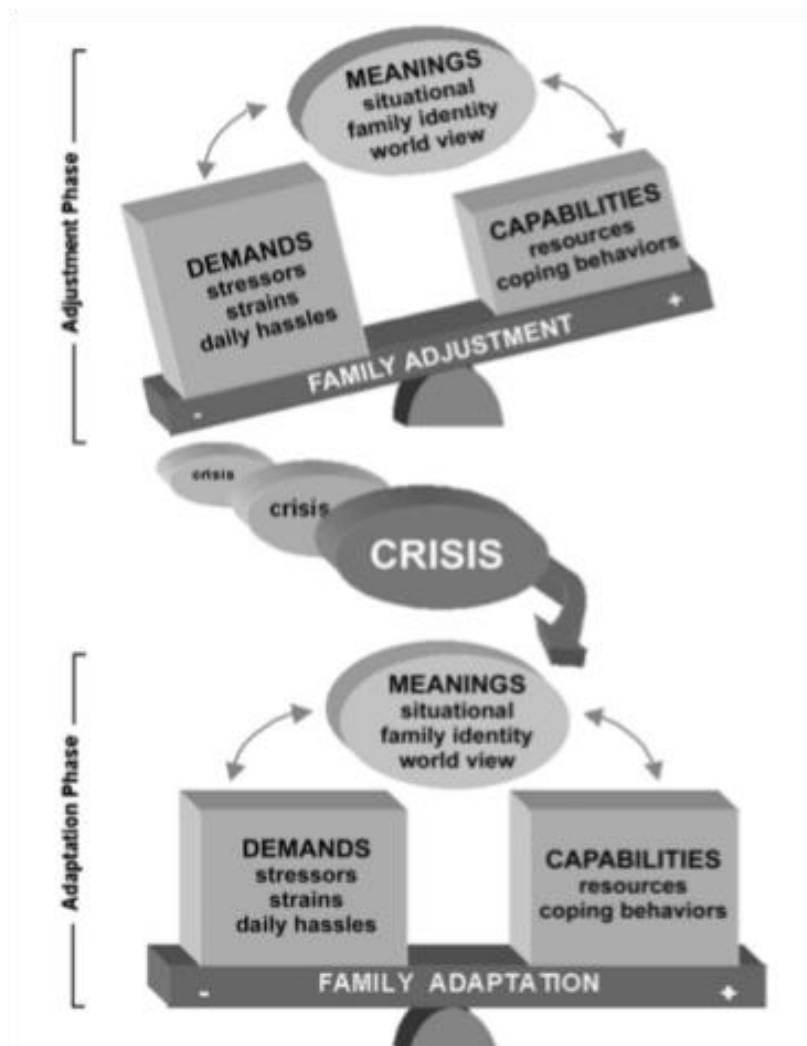
Another way of explaining FAAR is that it looks at resilience building as a process of adapting to ordinary stressors and generating and using resources in response to extraordinary stressors. **See Figure 9.**

We included the FAAR model as a well-accepted explanation of how crisis can put demands on families that cause an unbalance and how families respond to a crisis by adjusting to the demands, making meaning of their situation, and managing resources to handle the crisis. The model shows a return to equilibrium after adapting to life after the crisis. Farm families who experience extraordinary stressors that lead to a crisis can be guided through the process of adjustment and adaptation as part of their recovery.

The model provides a guide for professionals from multiple disciplines to assist individuals and families who are facing stressors. Professionals can help individuals and families identify demands, meanings, and resources available and then guide them and families to find adaptations that will help them find and maintain acceptable balance. Also, educators can help individuals and families build the skills and resilience processes related to managing demands, communicating and discussing meanings around events and crises, as well as identifying resources and coping skills that will enhance their capabilities in a way that ties these skills to individual and family adjustment.

Figure 9

Family Adjustment and Adaptation Response Model



Source: Patterson, J.M. (1988). Families experiencing stress: The Family and adaptation response model. *Family Systems Medicine*, 6(2), 202-237.

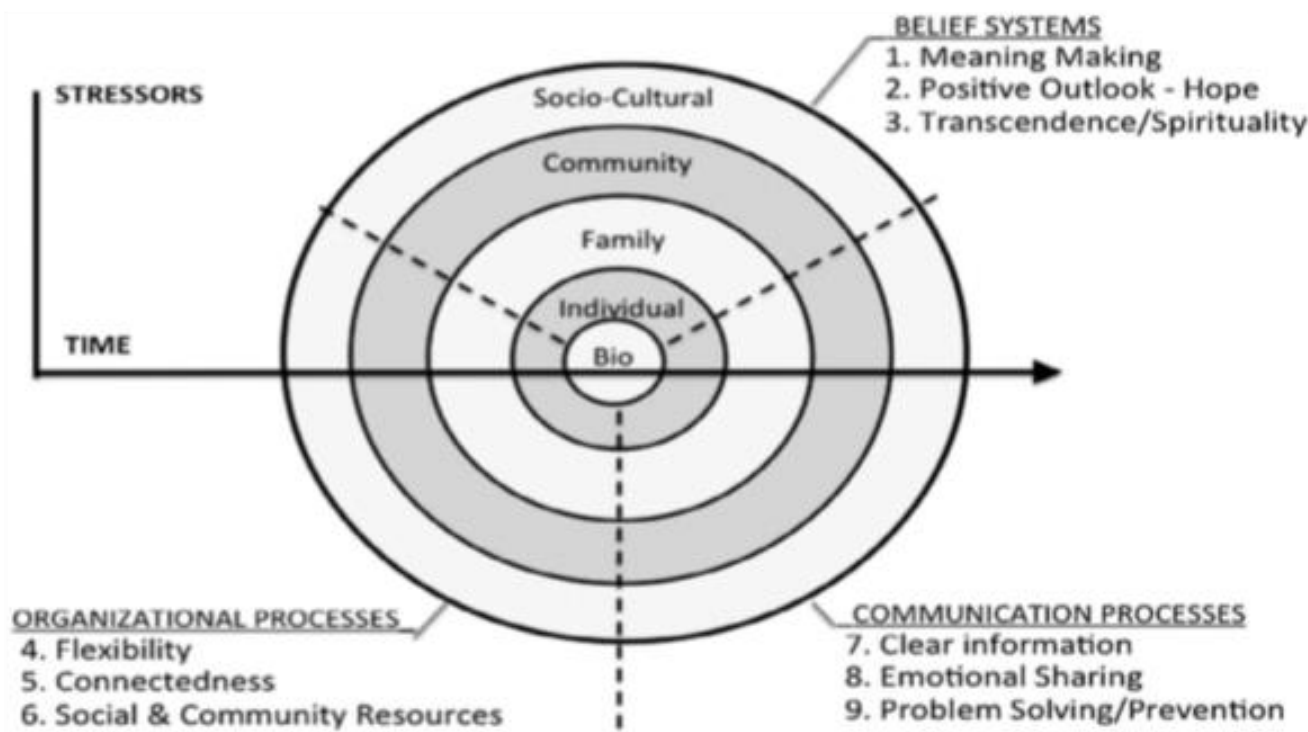
Risk and Resilience Theory Two. Walsh's Multi-Level Recursive Processes in Resilience Theoretical Framework (Walsh, 2016a) combines the eco-systems in which people and families are embedded. The framework also incorporates developmental aspects of the family experience of adversity--stressors.

Walsh's work goes beyond research focused on the resilience of children that dominates much of the field to focus on the resilience of families. Walsh gleaned from three decades of research to create an integrative model (Walsh, 2007, 2009, 2012a, 2012b, 2012c, 2013, 2015, 2016a, 2016b).

Figure 10 illustrates how families are complex, share borders and common ground with other families and yet have differences in life stage, demographics, and position in society. The creator of the model did so to organize core process elements into a map that would be useful for practice and research.

Figure 10

Multi-Level Recursive Processes in Resilience Theoretical Framework



Source: Walsh, F. (2016a). Family resilience: A developmental systems framework. *European Journal of Development Psychology*, 13(3), 313-324. (<https://doi.org/10.1080/17405629.2016.1154035>)

We included Walsh's theoretical framework because it is one of the most cited in the area of family resilience and because it helps to articulate the core process elements. These elements are, in effect, resiliency processes that, when developed, can assist individuals and families build resilience. The nine processes identified can be applied to any of the ecosystem levels. Improved resilience occurs when understanding of differences in core processes across the ecosystem levels exist.

This theoretical framework reinforces the use of the socio-ecological framework, provides guidance regarding the types of resiliency processes professionals can help to develop in farm individuals, families, and other ecosystems. The framework can also assist in helping to identify strategies professionals from multiple disciplines can use for identifying multilevel interventions. Professionals that adopt these strategies will increase their effectiveness in working with farm families to achieve farm family resiliency.

Risk and Resilience Theory Three. Danes and Brewton (Danes & Brewton, 2012) advanced the Sustainable Family Business Theory (SFBT) as a tested theory that explains the role of the family in entrepreneurial businesses. The theory focuses on sustainability as a measure of the success of the business and family functioning. The theory assumes that the business (i.e., farming enterprise) and family systems are subsystems of a family business system, with its resources and processes.

The SFBT is built on the work of Patterson (year) illustrated in the FAAR model. SFBT differs from most business theories that focus on structures and family theories that focus on relationships. Rather, SFBT focuses on resource accumulation and the use over time, acknowledging that the use of resources in times of stability affects resource use in stressful times. A model of the theory is shown in Figure 11. We included this model because it is a theory that links the family and the farming business and places it within the context of the community.

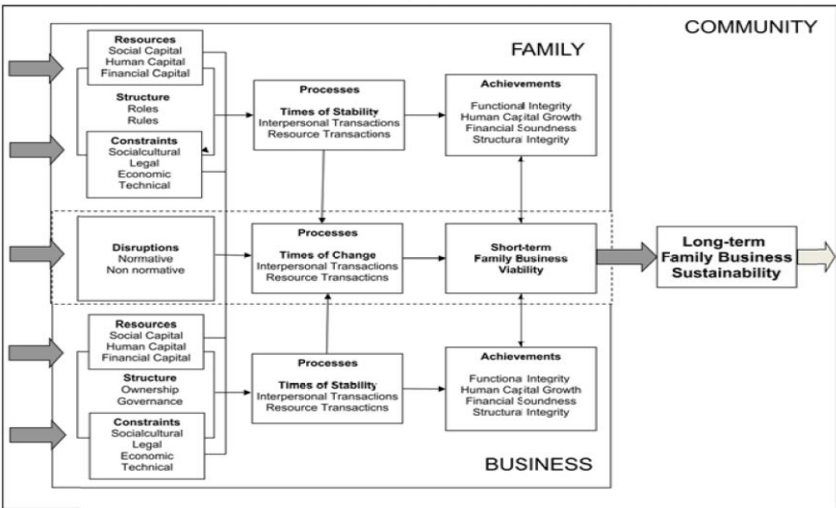
The SFBT theoretical framework may help Extension professionals across the agriculture program areas, family and consumer sciences, 4-H, community resource/economic development, and natural resource and conservation. The framework shows the importance of developing social, human, and financial capital, and resources over time for the personal/family and business side.

Building skills that help support interpersonal and resource transactions are often the knowledge, skills, and behavior change outcomes Extension programming focuses on. The SBFT framework helps to illustrate the need for multi-program area collaboration in the development of effective programming.

The theory also helps professionals think about the relationships of the farm business and the functioning of immediate and extended families. With its explicit components, professionals can devise strategies and incorporate content relevant to long-term family business and family sustainability.

This theory also acknowledges the role that the community can play in supporting human, social and financial capital development. To develop partnerships to support farms and their families, Extension should look for partners who can assist in providing the necessary expertise and resources so together, the likelihood increases of creating positive outcomes for this audience.

Figure 11: Sustainable Family Business Theory (SFBT)



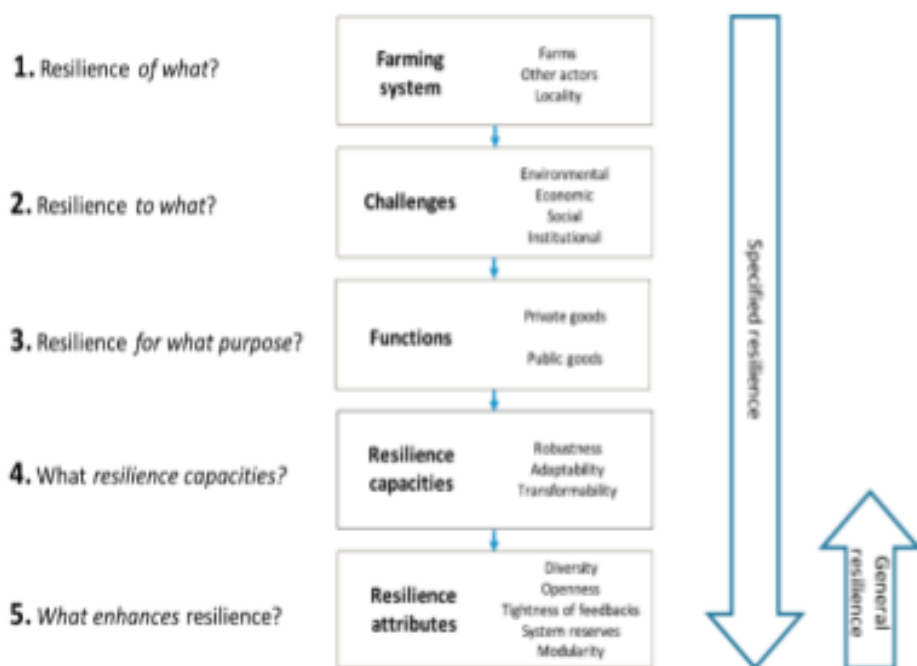
Risk and Resiliency Theory Four. The last theoretical model is a new Farming Systems Resilience Assessment Theory or FSRAT (Parsonson-Ensor, & Saunders, 2011). FSRAT was devised to measure adaptation to economic, environmental, social, and institutional challenges.

The creators defined farming systems resilience as the ability to maintain system functioning in the presence of “increasingly complex and accumulating economic, social, environmental and institutional shocks and stresses....”.

They measured capacities of robustness, adaptability, and transformability. The adaptability capacity is the same concept used in the FAAR model. The Farming Systems Resilience Assessment Theoretical Framework, is shown in **Figure 12**.

Figure 12

Framework to Assess Resilience of Farming Systems



Source: Meuwissen, M.P.M.et al. (2019, November). A framework to assess the resilience of farming systems. *Agricultural Systems*. 176. <https://doi.org/10.1016/j.agsy.2019.102656>

Closing comments about theoretical frameworks.

Though there are other theoretical frameworks or models that could be used for educational programming, we chose these four because we believe they help to explain an integrated, multi-disciplinary systems approach. They reveal the complexity of farmers, farm families, and farm systems in relation to the business of farming.

The theoretical frameworks in this guide begin to draw connections across the socio-ecological systems model. They can help with identifying strategies to address farm and family risk and resilience. Professionals can identify key strategies from the frameworks and theories for programming planning, delivery and assessment.



Delaware Century Farm Family



Maryland Century Farm Family



Source: Union Springs Herald. February 17, 2021.
https://www.unionspringsherald.com/news/article_794a62e2-7152-11eb-b843-a7edc80a4c3d.html

2021 Merit Farm Family Award
Tuskegee University Cooperative Extension

"Ownership of a family farm is the triumphant result of the struggles of multiple generations. Losing the family farm is the ultimate loss."

Chapter 2: What outcomes could be achieved using a socio-ecological risk and resilience framework?

If sustainable change in conditions that give rise to crises on the farm can be achieved, it will be through a multi-disciplinary, research-based approach with multiple professionals, farmers, their families, and farm workers, and stakeholders, including decision-makers, working together.

A sustainable change approach to resilient farms and farming population must go beyond teaching an individual or family how to manage stress. Efforts to get people to change behavior will be limited in success if policies, systems, and environments (PSE) do not support the desired changes (Honeycutt et al., 2015). Extension's Wave Two of the Well Connected Communities project acknowledges the importance of PSE in this quote and Figure 13 from their website <https://wellconnectedcommunities.org/>:

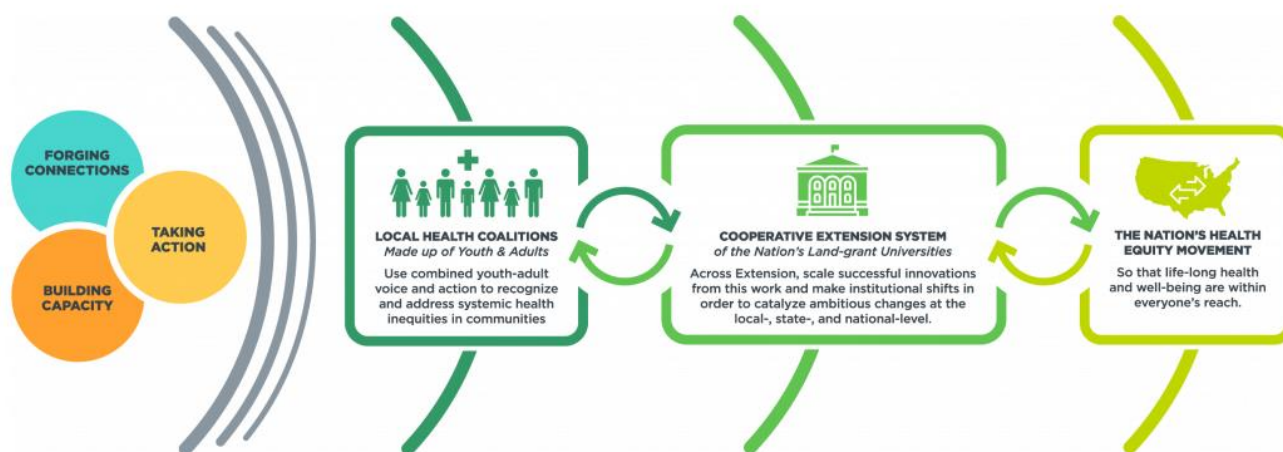
"We believe that the Policy, Systems, and Environmental (PSE) changes that come out of this local and system-level work will advance the nation's health equity movement so that life-long health and well-being are within everyone's reach."

"We believe that the Policy, Systems, and Environmental (PSE) changes that come out of this local and system-level work will advance the nation's health equity movement so that life-long health and well-being are within everyone's reach."

- Well Connected Communities

Figure 13.

Well Connect Communities



Notes:

1. We are forging connections, building capacity and taking action in communities across the nation and across Cooperative Extension
2. We are helping local health coalitions use combined youth-adult voice and action to recognize and address systemic health inequities in their communities.
3. Across the Extension network we are scaling successful innovations from this work and making institutional shifts in order to catalyze ambitious changes at local-, state-, and national-level.
4. We believe that the Policy, Systems, and Environmental (PSA) changes that come out of this local and system-level work will advance the nation's health equity movement so that life-long health and well-being are within everyone's reach.

Source: <https://wellconnectedcommunities.org/>

A framework for achieving sustainable change was missing when we began the task of creating the risk and resilience framework. We believed that a framework would guide the collective work needed to make sustainable changes in the forces and reactions that give rise to chronic stress detrimental to the physical, mental, and financial well-being of individuals, families and farms.

A sustainable change approach to resilient farms and farming population must go beyond teaching an individual or family how to manage stress or the farm to how to address policies, systems, and environments.

We chose to ground the framework for risk and resilience in a slightly modified version of the 2014 Cooperative Extension National Health and Wellness Framework (Braun et al., 2014). Our new Integrated Risk and Resilience Extension Framework for Health and Wellness of Farms and Farming Populations, Figure

14, retains the general framework of the Extension Committee on Organization and Policy (ECOP) model. It changes the ultimate outcome to be “resilient farms and farming populations.” Conditional outcomes are now: Healthy Farm Systems and Health Farmers, Farm Families, and Workers. The action or behavior changes remain the same. We added a few content areas to the original priorities for the ECOP model and retained the same Extension Partners.

The 2014 Cooperative Extension National Health and Wellness Framework, and our Integrated Risk and Resilience Extension Framework for Health and Wellness of Farms and Farming Populations present a complex interplay between individuals, communities, and the greater society, requiring responses that account for that complexity (Delind, 1986). Both models draw on other socio-ecological models (Atkiss et al., 2011; Bronfenbrener, 1994). Both identify current programmatic endeavors with respect to health, put them in the socio-ecological systems and contexts in which individuals live, and encourage Extension personnel to engage in policy and systems change.

To illustrate systems embedded within systems, we created our Farm and Farm Family Risk and Resilience Socio-Ecological Model, previously introduced as **Figure 5** (page 50). By changing environments and systems some stressors can be prevented and many can be mitigated. Points of intervention can be identified when a situation analysis reveals risks and opportunities to build resilience of farmers, farm families and farming systems.

The Farm and Family Risk and Resilience Guide for Extension Professionals eFieldbook can strengthen programming decisions and the likelihood of achieving multiple outcomes.

RISK AND RESILIENCE EDUCATIONAL LOGIC MODELS

The Integrated Risk and Resilience Extension Framework for Health and Wellness of Farms and Farming Populations provides the basis for logic models for programming with farmers and farm families, other professionals, and stakeholders. The logic models we created are located in the appendices of this guide. They are also available at <https://www.udel.edu/academics/colleges/canr/cooperative-extension/personal-economic-development/agribusiness/>

The Framework quickly captures the organized whole and illustrates that farm and family risk and resilience is more than the sum of its parts. It does not show learning, action/behavioral change or conditional outcomes, or how they can be measured. For those outcomes, we created three logic models – a tool frequently used by Cooperative Extension to show the relationship of inputs to actions and outcomes. The three logic models are for three different targeted audiences:

1. Professionals who support farms and the farming population
2. Farmers, Farm Families, Farm Workers
3. Stakeholders

Logic Model 1. This logic model targets agriculture, finance, family, and health professionals who support the farming populations and is in **Appendix A**. This logic model can guide decision-making and

measure the impact of professional development programs intended to increase awareness of challenges experienced by the farming population; increase understanding of research that supports an integrated risk and resilience; and increase capacity to apply principles and confidence to conduct the programming. It can also serve as a basis for proposals for funding requests.

Logic Model 2. This logic model targets farmers, farm families and/or farm workers and is in **Appendix B**. It can help professionals plan, implement and measure outcomes of risk and resilience programs. This logic model can save individual professionals time in developing programs; can serve as a basis for working with multiple professionals; and provide a common base for assessing the extent to which multiple professionals are increasing the likelihood of reaching the intended short, medium, and long-term outcomes. **Figure 15.**

Logic Model 3. This logic model targets stakeholders whose decisions and actions impact farming communities and farming populations. This logic model is in **Appendix C**. It is for professionals to use to plan, implement and measure outcomes of risk and resilience programming. This logic model can save individual professionals time in developing programs; can serve as a basis for working with multiple professionals; and can provide a common base for assessing the extent to which multiple professionals are increasing the likelihood of reaching the intended short, medium and long-term outcomes.

Use of Logic Models. These logic models show inputs, actions, and outcomes, but they include measures that professionals can use to show impact across multiple disciplines and professional settings. Targeted audiences can use a variety of assessments to self-assess areas that are their strengths and areas that could be improved. Several assessments are included in the Tools section of this Guide.

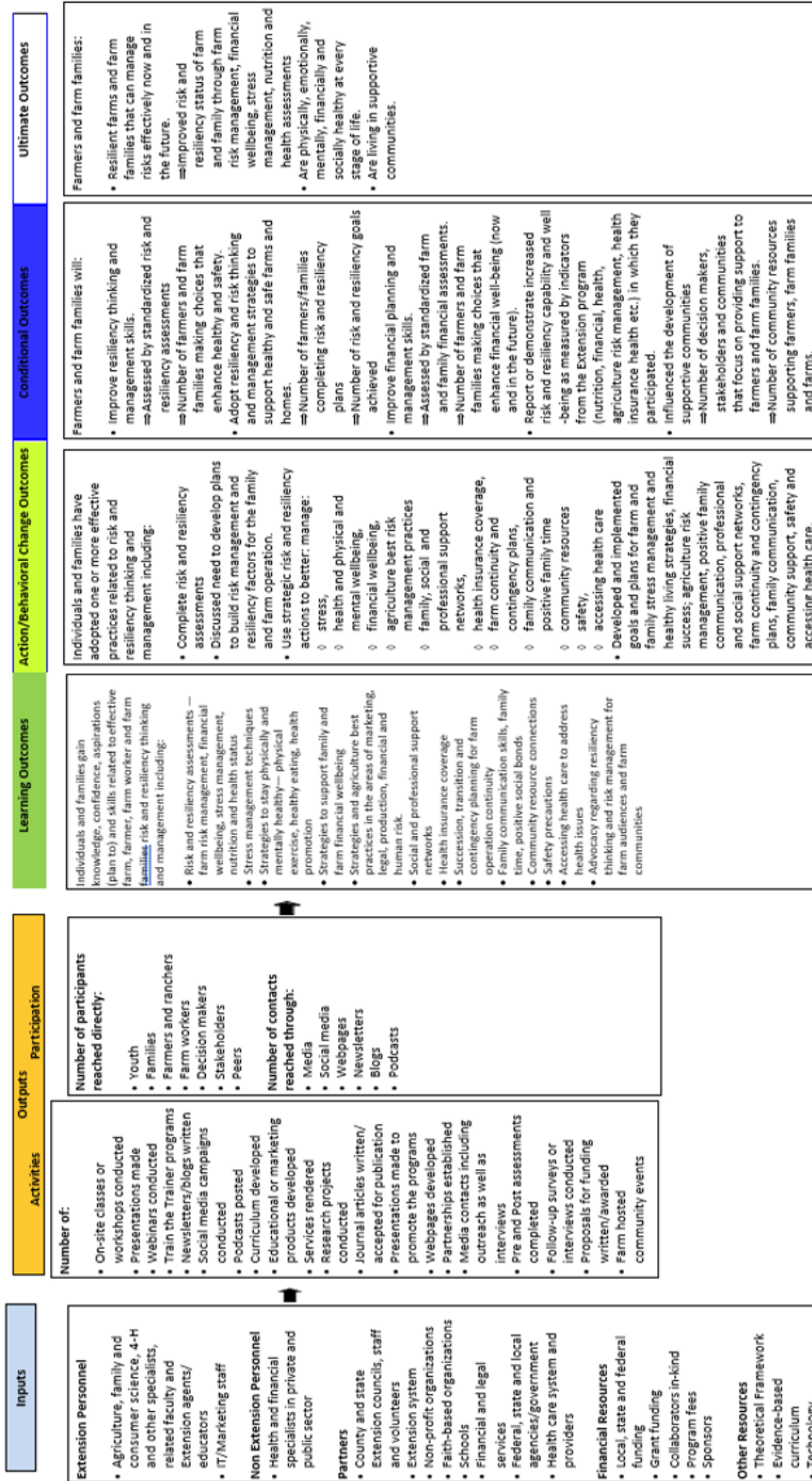
For professionals, assessments can provide benchmark data and specific point-in-time changes within and among the three targeted audiences. Results can be used for decision-making about additional programming and interventions; requests for funding and other support; the case for public policy and additional research, and reports to participants and stakeholders.

Logic models show inputs, actions and outcomes including measures that professionals can use to show impact across multiple disciplines and practice settings.

Figure 15: Farm and Farm Families Logic Model

Farm and Farm Family Risk and Resiliency Logic Model Two — Farm and Farm Families

Situation: Farm families experience both ordinary and extra-ordinary stress and change because of the interdependent nature of family farm business and farm family living. Ordinary stresses include the constancy of responsibilities to make or keep the farm profitable; begin and/or retain a farming legacy; juggle on and off-farm work; care for family members; deal with illness or injury; manage multi-generational tensions and handle weariness and loneliness. Extra-ordinary stresses, like bad weather, volatile markets, and tariffs, add pressures to farming enterprises. These pressures impact the health of the farm and farming population. Responses to pressures, or stressors, range from faulty thinking to dismay, distress, illness, despair and even suicide. At stake—the future of many farming operations, farm families, farm workers, farming communities, the prosperity of agriculture and the availability of domestic products for our country's citizens. The farming population can benefit by understanding and adoption of skills in resiliency thinking and risk management. They can learn through an integrated informational and educational approach among agriculture, family, finance, community and health professionals.



Created by Bonnie Braun & Maria Pippidis, 2019

Chapter 3: How can Extension and other professionals apply research and theories and incorporate existing resources into programming?

OVERVIEW

Once professionals understand the why and what of educational programming, they must determine the how. In this case, it means determining how to use the research findings and theories to design, deliver, and assess the degree to which outcomes are achieved. When an area of programming is new, professionals may not be aware of tools they can use.

In developing a risk and resilience program for the farming population, educators will likely ask “How can we build resilience?” The answer lies, in part, in these four components of building resilience: (1) learning to live with change and uncertainty; (2) nurturing diversity in its various forms; (3) combining different types of knowledge and learning; and (4) creating opportunity for self-organization and cross-scale linkages (Panpakdee & Limnirankul, 2018). These components can be incorporated into programming that features adaption and ways of socially interacting across time and space to reduce vulnerability to risk.

In early 2019, a research team from the North Central Region searched online for programs and educational materials addressing farmer mental health (Inwood et al., 2019). The region was the focus of the investigation due to tariffs, trade wars, and flooding in 2019 becoming a crisis for farms, families, and communities. The study’s goal was to catalogue programs, so Extension can better respond to the crisis and to identify potential programming. Researchers found that the majority of the materials and education were self-help-focused—not created to address systems change. As we reviewed and identified assessment tools and educational program resources, we also found that many tools are individually focused. This guide provides materials and the rationale for going beyond a focus on individuals to the family, farm, community, and beyond.

PURPOSE OF CHAPTER THREE

The purpose of this section is to provide information about assessment and educational tools and resources developed by the authors and other professionals. The tools address individuals, families, farms, communities, and policy. There are three defining characteristics of Section Three.

1. The first defining characteristic is the inclusion of links to theories to guide program decision-making. With its literature review and resulting logic models, this guide provides approaches that can strengthen program decision-making and design.
2. A second characteristic is the use of our social-ecological framework. A social-ecological, systems model illuminates the relationship between parts and the whole to guide program planning and implementation.
3. A third characteristic is the use of multiple tools to capture attention, increase understanding and skills and move people toward action. To move programming to a more systems approach, may require a combination of tools or developing additional tools that will create desired outcomes.
4. A fourth characteristic is the inclusion of assessment and planning tools and logic models to frame programming and types of outcomes. To organize the tools into a program plan, we created the Farm and Farm Family Risk and Resilience Program Planning Worksheet, available in Appendix D. This tool can aid educators in developing programming consistent with social-ecological approaches.

Contents of Chapter Three

In Section Three, we provide assessments and programmatic tools and resources in three categories:

1. Health and Well-Being
2. Financial Management
3. Personal, Family, Farm and Community Resilience

HEALTH AND WELL-BEING

Many areas of Extension programming are designed to work with individuals to improve their well-being. Family and Consumer Science programming has focused on health topics that include nutrition, physical activity, chronic disease management such as diabetes education, health management, health insurance literacy, and, increasingly, wellness.

Farm, pesticide, and vehicle safety are examples of programs offered by Agriculture personnel. Collaborative projects between Agriculture and Family and Consumer Science educators recently have focused on farm stress management. These programs are important and can show impact. Adapting these programs to integrate risk and resilience approaches would benefit farm audiences.

The link between farm vitality and health is essential. Without a healthy farming population, the farm's success will deteriorate. The rise in stress and suicide demonstrates the relationship. Accessibility and affordability of health care and mental health care are important aspects of farm risk management. Building resilience factors and understanding will help reduce the stigma associated with taking care of oneself, improve the connection to resources, and improve accessibility for farm audiences.

The tools below can help farm audiences and community members recognize the importance of health-related issues and encourage the development of strategies to address these issues at a community level. These tools and activities can easily be integrated into program planning and implementation. They can be found at <https://www.udel.edu/academics/colleges/canr/cooperative-extension/personal-economic-development/agribusiness/>. Tools are provided in three categories: 1) Assessment tools; 2) Tools for farmers and farm family audiences and; 3) Tools for Professionals and Key Stakeholders.

Assessment Tool:

“How Healthy is Your Farm?” Linking Farm Vitality and Family Health and Wealth

This 13-question Likert scale self-assessment tool that helps farm audiences: 1) see the linkages between their health and the financial vitality of the farm; and 2) determine what areas might need improvement through their self-ranking. Developed by the University of Delaware Cooperative Extension and University of Maryland Extension, the self-assessment tool is available at <https://www.udel.edu/academics/colleges/canr/cooperative-extension/personal-economic-development/agribusiness/>

Tools for farmers and Farm Family Audiences



This 75-minute presentation at the April 2020, National Extension Risk Management Conference provides an overview of farm and farm family risk and resilience. It introduces many of the tools included in this guide. Presenters included Maria Pippidis, University of Delaware and Bonnie Braun and Jesse Ketterman, University of Maryland Extension.
https://agrisk.umn.edu/Library/Record/creating_thriving_farms_tools_you_can_use_wit

1. Farm and Farm Family Risk and Resiliency Toolkit

Based on the work of the authors, several tools were created to support introducing the concepts of risk and resilience for farm audiences. Six are included in the toolkit.

a. Thriving Farm Visuals and Descriptions

To illustrate how the health and well-being of the farm is dependent on a number of factors, the authors created a factsheet, *Creating a Thriving Farm Visuals, Descriptions and Stacking Game*, to illustrate the factors that would characterize thriving, coping, struggling, and failing farms. This factsheet outlines these characteristics for each type of farm and provides visuals that can be used to show how a farm can move from thriving to failing if a key farm employee becomes ill and other factors are diminished over time. The fact sheet describes the socio-ecological factors for each type of farm. Developed by the University of Delaware Cooperative Extension and University of Maryland Extension, the factsheet is available at <https://www.udel.edu/academics/colleges/canr/cooperative-extension/personal-economic-development/agribusiness/>



Photo by University of Delaware Cooperative Extension staff

b. Building a Thriving Farm - Stacking Game

This game's objective is to show how key elements work together and support one another to build a resilient, thriving farm that can manage risks. Educators can use this activity to set the stage for education about key risk management strategies, including health. Using the blocks labeled with critical elements of a thriving farm, participants build their farm by stacking and prioritizing pieces to create a thriving farm. Once built, the facilitator announces a scenario, like someone becoming unable to work due to illness or farm accident. Participants must remove blocks that are impacted by the scenario, and the structural integrity of the farm will be affected. Participants will see how well their structure is built. The facilitator then asks questions and provides information about how to anticipate and put into place best practices to stabilize the farm during times of distress based on the scenario. Developed by the University of Delaware Cooperative Extension and University of Maryland Extension. Information about and directions for instruction can be found within the factsheet, *Creating a Thriving Farm Visuals, Descriptions and Stacking Game* located at <https://www.udel.edu/academics/colleges/canr/cooperative-extension/personal-economic-development/agribusiness/>. The Stacking Game was used with youth who learned about succession planning during the 2020 Delaware Ag Week Risk Management Session. They started by building their thriving farm using the Stacking Game then they asked questions of a lawyer, accountant and other professionals after reviewing a succession planning case scenario.

c. “How Healthy is Your Farm?”



VIDEO

This 2-minute, animated video shows the importance of personnel health to the vitality of the farm. It illustrates the key human capital building blocks necessary to keep the farm thriving.

Developed by the University of Delaware Cooperative Extension and University of Maryland Extension; produced by the University of Delaware Cooperative Extension.

https://www.youtube.com/watch?v=0X2MbSm_X7I&feature=youtu.be



d. Farm Resilience Bingo Activity

This bingo activity was created by Maria Pippidis, University of Delaware Cooperative Extension, to engage multiple people in exploring actions that individual farmers and members of farm families can take to self-assess what they currently do to reduce risk and build resilience. An educator can use at the beginning of a group session as a pre-test of what the participants are doing and at the end as a measure of which of these actions they intend to do. Alternatively, it could be used as an activity to keep people engaged as the actions are introduced in a presentation. The Bingo game is available at:

https://www.udel.edu/content/dam/udelImages/canr/pdfs/extension/Agribusiness/Farm_Resilience_Bingo_Activity-4-15-20.pdf

e. Reducing Stress and Building Resilience



VIDEO

This 5-minute video of a presentation by Jesse Ketterman, the University of Maryland Extension, is part of a series focused on COVID-19 and Farmers. It could be used with groups as a brief overview of stressors and building resilience.

<https://www.youtube.com/watch?v=bgpe9CWYyJo&feature=youtu.be>



f. Managing Farm and Farm Family Challenges Resiliently: A Worksheet to Explore Resilient Thinking and Doing



WEBSITE

This worksheet was designed by Maria Pippidis, University of Delaware Cooperative Extension, and Bonnie Braun, University of Maryland, to use with the farming population. It could be used as the basis for a program with a group. Each person or couple works together to respond to categories on the worksheet. The activity is intended to be a means of building resilience.

Available at:

https://www.udel.edu/content/dam/udelImages/canr/pdfs/extension/Agribusiness/family_resilience_worksheet_for_solutions_placemat_14x8noarrows.pdf

UNIVERSITY OF
MARYLAND
EXTENSION

Managing Farm and Farm Family Challenges Resiliently

A Worksheet to Explore Resilient Thinking and Doing

UNIVERSITY OF DELAWARE
COOPERATIVE
EXTENSION

What I (we) dream about:

Challenge

Organizational Processes And Strategies

What resources do we have or can we acquire to help us adapt to meet this challenge?

What does moving forward and providing mutual support, teamwork, and commitment for each other look like and how do we do it?

Which family, friends, professionals or community organizations can provide support?

What risk management strategies can be put in place or updated?

What strategies can we put in place to enhance financial security and balance our work and life?

Whose roles or which rules need to be adjusted to help address this challenge?

Communication/ Problem-solving Processes

What can we do to support clear, consistent information sharing?

What can we do to provide an environment open to sharing our values, meaning and feelings about the challenge?

What can we learn from previous setbacks that will help us address the current challenge?

What new ideas or resources can be brainstormed that will help us reach our dream?

What process can we put in place to share decision making?

Shared Belief Systems

What does this challenge mean to me/us? Is it a threat or an opportunity? Why

What strengths do I and my family members bring to addressing this challenge?

What learning, change or positive growth can we acquire that will support our adaptation and help to reach our dreams?

If we evoke a CAN-DO approach, what would we create together?

What can we do to be more become or remain hopeful and optimistic?

Short term steps toward my/our dreams:

Who will help?

University of Delaware Cooperative Extension is an equal opportunity provider. Developed by M. Pippidis, University of Delaware Cooperative Extension and B. Braun University of Maryland Extension. This document is one of the tools associated with the Farm and Farm Family Risk and Resilience Guide. The Guide provides an overview of research, frameworks, and assessment and educational tools Extension professionals can use to help create resilient farms. The Guide can be found at: <https://www.udel.edu/academics/colleges/canr/cooperative-extension/personal-economic-development/agribusiness/>.

2. Health Insurance and Farm Risk



VIDEO

This 3-minute video was created for farming families. Content is based on findings from a multi-state study. The video was produced by the University of Vermont.

<https://www.hirednag.net/resources-for-farmers>



3. The Smart Choice Health Insurance™ and Smart Use Health Insurance™ educational modules and materials



Designed for all audiences, these materials have an option to use farm-related case studies. These educational modules, developed by the University of Maryland Extension and University of Delaware Cooperative Extension, help participants better understand the why, what, and how of four different health insurance-related topics:

- Smart Choice Basics – provides an overview of why insurance is important for health and financial well-being and reviews a tool that can be used to do comparison shopping for health insurance plans based on health care needs.
- Smart Use - Actions – provides an overview of seven steps consumers can implement to use their health insurance wisely for their health and financial wellbeing.
- Smart Use – Your Health Insurance Benefits – provides an overview of the types of benefits offered in plans and how to get and use these health benefits
- Smart Use – Understanding and Estimating Costs – provides an overview of the types of costs, why it's important to understand them and how to estimate out of pocket costs for the plan you have so you can integrate them into your monthly spending plan.
- Health Insurance in Your Senior Years- Medicare and other Health Insurance Options – provides an overview of Medicare, Supplemental Insurance and how to estimate out of pocket costs.

In addition, there are specific resources for farm audiences located on the website:

<https://www.extension.umd.edu/insure>

4. Resilient Farms: Financial & Management Guides and Resilient Minds

Managing stress on the farm resources include educational programs and written resources that educators can use. In addition, training to become certified to conduct educational programs in your state can be acquired. These resources have been developed by Michigan State University Extension and can be found at https://www.canr.msu.edu/managing_farm_stress/

5. Rural Resilience

Rural Resilience is a free, private, online training course to help farmers, as well as their families and neighbors, cope with stress. The course is offered by Farm Credit, the American Farm Bureau, the National Farmers Coalition, Michigan State University, and University of Illinois Extension. Additional information about the course and registration is available at:

https://opencoursesstore.d2l.com/product?catalog=msu_urmfs_2020

<https://farmcredit.com/rural-resilience>



6. Mental Health and the Impact on Wellness for Farm Families

This two-page publication quickly outlines signs, symptoms and steps to be taken to get help when dealing with stress or depression. It also offers a guide for how to talk with your doctor.

Developed by the AgriSafe Network and can be found at:

<https://agn.memberclicks.net/assets/docs/OSHAResources/Mental%20Health%20Resource.pdf>

7. Your Healthiest Self: Wellness Toolkits

These online and printable resources developed by the National Institutes of Health (NIH) provide an overview and then specific steps individuals can take for better health. The following topics are covered:

- Your Surroundings
- Your Feelings
- Your Body
- Your Relationships
- Your Disease Defense

This resource can be found at: <https://www.nih.gov/health-information/your-healthiest-self-wellness-toolkits>

8. Getting Experience with Mindfulness (GEM)

Get Experience in Mindfulness is an awareness and acceptance stress management program. This program places an emphasis on stress management taught through practical and interactive mindfulness-based activities to facilitate experiential learning.

The program is a research based and theory-driven program that meets National Health Education Standards. There are five lesson topics: 1) Intentions and Goal Setting, 2) Awareness and Attention, 3) Self-care: Stress Reduction and Relaxation, 4) Communication and Relationships, and 5) Gratitude and Acceptance. Participants of the program learn what mindfulness is and how to integrate it into daily life, alignment and form for over 25 strength and flexibility poses adapted from yoga poses and relaxation techniques.

The 108-page guide is designed for a lay-leader and is intended to be used with ages 10 and up.

Developed in 2018 by the University of Delaware it can be purchased from <https://shop4-h.org/products/gem-get-experience-in-mindfulness>

9. Mindful Wellness

Ohio State University Extension has developed a website with resources that focus on mindfulness and its relation to physical and mental wellness. This resource also connects readers to Ohio State's Center for Integrative Health and Wellness free mindfulness recordings for personal use through the OSU Wexner Medical Center. Additional guided imagery downloads are available through the OSU Health Plan. This resource can be found at <https://fcs.osu.edu/programs/major-program-areas/healthy-relationships/mindful-wellness>

10. Farming and Ranching in Tough Times (FS1804 June 2016)

This publication from North Dakota State University Extension speaks to the types of stressors farmers and ranchers experience. The publication also outlines what individuals can do to reduce stress and improve health by managing stress symptoms and specific actions are suggested. This resource can be found at <https://www.ag.ndsu.edu/publications/kids-family/farming-and-ranching-in-tough-times#section-4>

11. Managing Stress on the Farm



VIDEO

This three-minute video was produced by Leslie Forstadt, University of Maine, through their Cooperative Extension AgrAbility program and released in October 2020. The video, designed for farming audiences, suggests strategies for handling stress before it leads to depression. Resources are included at the end of the video.

<https://www.youtube.com/watch?v=hF3kTObfJV4&feature=youtu.be>


Farming can be stressful.



12. Managing and Breaking the Chronic Cycle of Stress

The University of Wisconsin-Madison Extension produced multiple videos to help the farming population manage stressors. Two are featured here.

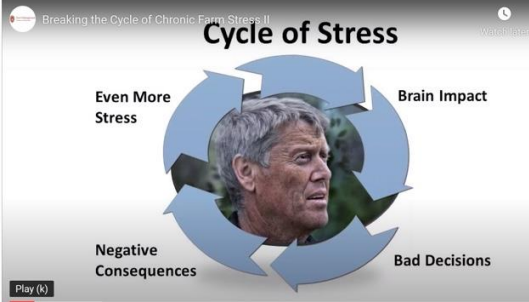
a. Breaking the Cycle of Chronic Farm Stress II



VIDEO

Breaking the Cycle of Chronic Farm Stress II is a 6-minute video intended for the farming population. The video illustrates how stressors impact the brain, can lead to bad decisions with negative consequences and produce even more stress. Viewers are given ideas for actions and practices to break what can be a toxic cycle. The video was released in July 2020.

<https://www.youtube.com/watch?v=pVufyDsovEc>



The diagram illustrates the 'Cycle of Stress' as a circular process. It features a central image of a man's face. Surrounding this are four blue arrows forming a circle, each pointing to the next. The labels for the stages are: 'Even More Stress' at the top, 'Brain Impact' on the right, 'Bad Decisions' at the bottom, and 'Negative Consequences' on the left. The cycle is titled 'Cycle of Stress' at the top.

b. COVID-19: Fighting Through the Fog of Stress was produced to help agricultural producers overcome the brain fog of stress so they can make clear-headed decisions during times of ordinary stressors and extraordinary stressors.



VIDEO

The video reinforces the importance of planning and goal setting as processes that engender a sense of control during stress overload.

<https://www.youtube.com/watch?v=iETVgSrRVws>



The video thumbnail features a red header with the title 'COVID-19: Fighting Through the Fog of Stress' in white text. Below the title, the speaker's name and title are listed: 'John Shutske, Professor', 'Extension Specialist', and 'Agricultural Health & Safety'. A small inset image shows the speaker, John Shutske, in a video call window.

13. Farm State of Mind Resource Directory

The American Farm Bureau released the Farm State of Mind Resource Directory in May, 2021 during Mental Health Month. The directory lists resources for farmers and ranchers and their families dealing with stressors and mental health challenges. The directory is available at: <https://www.fb.org/land/fsom>.

Tools for Professionals and Key Stakeholders:

1. Supporting Well-Being in the Agricultural Community



VIDEO

This recording is a 60-minute webinar conducted on February 5, 2021, as part of the National Farmers Union's Conference. Ruby Brown-Herring, RBH Wellness Solutions, LLC, served as a moderator. She was joined by Dr. Michael Rosmann, Ag Behavioral Health, and Dr. JC Carrica, Southeast Health Group. They spoke to how professionals can support the well-being of the farming population.

https://www.youtube.com/watch?v=ahrmXb_8Vwk



2. Behavioral Health within the Farming Population

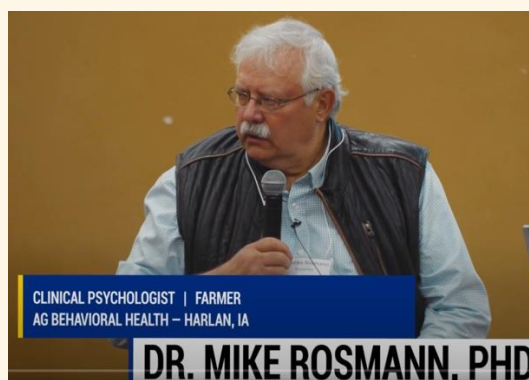
Dr. Mike Rosmann made the keynote presentation at the October 2019 South Dakota State University Extension Farm and Ranch Stress Summit. In this 50-minute video, he explained why the term "behavioral health" is preferred to "mental health" with the farming population. He explained answers that exist as to what influences behavioral health across the farming population and raised questions needing answers to understand and address stress and suicide among farmers. A number of questions framed his presentation: Why is farming so stressful? What do we know and don't know about stressors? How does behavioral health among the farming population differ from the general population? Why we need physicians and counselors trained in the culture of farming.



VIDEO

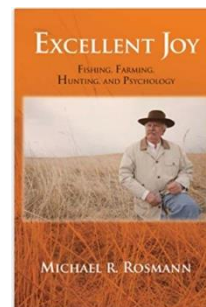
In this 50-minute video, he explained why the term "behavioral health" is preferred to "mental health" with the farming population.

<https://www.youtube.com/watch?v=utqrBV9UQg4>



3. Excellent Joy: Fishing, Farming, Hunting and Psychology

Dr. Michael Rosmann, psychologist and farmer, authored the book *Excellent Joy: Fishing, Farming, Hunting and Psychology*, for which he received the Silver 2011 Book of the Year Award in the nature category from Foreword Reviews. Dr. Rosmann explained the psychology of why people engage in outdoor work and recreation with lessons from the field and celebrating life. ISBN 9781888160550



4. Mental Health in Rural America

In August 2020, the American Farm Bureau, National Farmers Union, and Farm Credit produced a 54-minute video that aired on RFD-TV. The video is part of the partners' efforts to increase awareness, reduce stigma and share mental health resources. The video provides an overview of farm stress and farmer mental health. The video could be used with the farming population and/or those who support the farming population.



American Farm Bureau, National Farmers Union, and Farm Credit produced a 54-minute video that aired on RFD-TV.

<https://www.youtube.com/watch?v=gFFYBykLt14>



5. Farm Family Stressors: Private Problems, Public Issue

This policy brief provides a summary of the stressors faced by farm families and their implications. It also provides strategies communities and decision-makers can use to better support farm audiences. This brief can be used to help inform decision-makers.

Written by Dr. Bonnie Braun for the National Council on Family Relations. It can be found at <https://www.ncfr.org/resources/research-and-policy-briefs/farm-family-stressors-private-problems-public-issue>

6. Linking Farm Vitality and Health Community Forums

The objective of community forums was to increase awareness of issues related to farmer health and access to health and farm and community vitality by professionals in key sectors (health care, mental health, agriculture, finance, estate planning, and risk management). The forums were held in Vermont, Ohio, Maryland, and Delaware. During a daylong event, information was provided to set the stage, and participants worked together to understand better the resources they could bring to supporting the farming community. Additionally, short-term action plans were developed to rally collaborative efforts in addressing issues faced by farmers and their families regarding health, mental health, farm and family risk management, and transition and succession planning. These forums were funded, in part, by the Northeast Region Center for Rural Development.

With support from the Connect Extension Foundation, through the New Technologies for Agriculture Education project, the use of online technology as a means of conducting a community forum was tested in April 2021. Professional development on how to conduct an online forum was conducted in July 2021. Associated videos and two E-pubs will be available through Connect Extension, the University of Delaware Cooperative Extension, and the University of Maryland Extension.

7. National Issues Forums (NIF)

This is a nonpartisan, nationwide network of locally sponsored public forums to consider public policy issues. It is rooted in the simple notion that people need to come together to reason and talk - to deliberate about everyday problems. More information about NIF can be found at <https://www.nifi.org/>

Conducted by a variety of organizations, including Cooperative Extension, the forum offers citizens the opportunity to join together to deliberate, to make choices with others about ways to approach complex issues, and to work toward creating reasoned public judgment. Forums focus on an issue such as health care and provide a way for people of diverse views and experiences to seek a shared understanding of the problem and to search for actionable common ground.

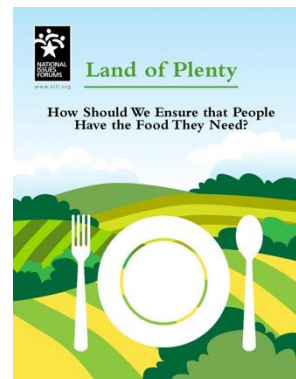
Forums are led by trained, neutral moderators, and use an issue discussion guide that frames the issue by presenting the overall problem and then three or four broad approaches to the problem. Forum participants work through the issue by considering each approach, examining what option appeals to them, and identifying the costs, consequences, and tradeoffs that would be incurred in following that approach.

NIF Forum topics are not specific to farm audiences but can be a tool to engage the broader community in deliberative discussion. National Issues Forums topics related to health issues include:

- How Can We Reduce Costs and Still Get the Care We Need?
- How Should We Ensure that People Have the Food They Need?
- What Should We Do about the Opioid Epidemic?
- What Should We Do When Alcohol & Drug Use Become a Problem to Society?

Recently, a new issue guide that could bring a range of participants in the food system together is titled, Land of Plenty. The issue guide, post forum questionnaire and other information is located

at: <https://www.colorado.edu/event/tedx/cu/2017/04/10/land-plenty-nif-issue-guide>





This 90-minute webinar, hosted by Libraries Transforming Communities, explains how to use the National Issues Forums' approach to engaging diverse members of communities in dialogue and deliberation.

<https://www.youtube.com/watch?v=WvL5HydT228>



8. Mental Health First Aid Training

This training provides a full day of information regarding types of mental illness - signs and symptoms; response strategies for those working with clientele; and local resource and referral information. There is a version for those working with adults and one for those working with youth.

There is some evidence that Mental Health First Aid (MHFA) increases participants' understanding of mental health and confidence in helping individuals with mental health problems and modestly improves attitudes toward mental illness, with small reductions in stigma (Wong et al., 2015).

The training is available in most states. For more information, go to <https://www.mentalhealthfirstaid.org/>

9. Health Insurance Rural Economic Development in Agriculture (HIREDnAG)

The Health Insurance Rural Economic Development in Agriculture website was developed by a group of research and Extension professionals committed to understanding how health insurance decisions impact farm and ranch families and rural development. Resources are available for farmers and professionals, and include research articles, educational tools, and videos to use with community members, key stakeholders and professionals. The HIREDnAG website is located at <https://www.hirednag.net/>.

10. Community Vitality and Rural Healthcare

This topic guide focuses on how community and economic development can complement health services in rural areas and how collaboration between these sectors can address issues such as population health and public health issues. The guide can be found at <https://www.ruralhealthinfo.org/topics/community-vitality-and-rural-healthcare>

11. Rural Agricultural Health and Safety

This topic guide focuses specifically on the health and safety issues inherent in the agricultural industry for farmers, their families, and their workers. It includes mental health information as well. The guide can be found at <https://www.ruralhealthinfo.org/topics/agricultural-health-and-safety>

12. Rural Suicide Prevention Toolkit

The Rural Suicide Prevention Toolkit goes beyond farmers to include rural residents. The toolkit was produced by the NORC Walsh Center for Rural Health. Included are modules with resources and information focused on developing, implementing, evaluating, and sustaining rural suicide prevention programs. The toolkit is found at <https://www.ruralhealthinfo.org/toolkits/suicide>

13. Rural Response to Farmer Mental Health and Suicide Prevention Issue Guide

In the summer of 2019, a team from the non-partisan and objective research organization at the University of Chicago's (NORC) Walsh Center for Rural Health Analysis produced a guide with an extensive list of current resources and information available nationally. The new online guide is located on the Rural Health Information Hub with additional navigational assistance to help people move easily through the content. This information can be found at: <https://www.ruralhealthinfo.org/topics/farmer-mental-health>

14. Practical Strategies for Extension Agents to Partner with Mental Health Professionals in Providing Family Consultation to Farm/Ranch Families

This Journal of Extension (JOE) article from October 2006 provides some guidance for Extension professionals who wish to partner with mental health professionals. The article can be found at

https://www.researchgate.net/publication/289849101_Practical_strategies_for_extension_agents_to_partner_with_mental_health_professionals_in_providing_family_consultation_to_farmranch_families

15. Mindful Wellness Curriculum

Ohio State University Extension's digital Mindful Wellness Curriculum is a series of mindfulness lessons created by and for Extension educators to use in their community. The curriculum can be offered as a series of up to five lessons or one stand-alone lesson and are designed as PowerPoints with instructor information included in the slide notes.

Also sold with the curriculum are an overview of the curriculum, binder cover, a two-page participant handout, and recommended pre- and post-program evaluations. The cost is \$48. More information can be found at <https://extensionpubs.osu.edu/mindful-wellness/>

16. Mental Health America

Mental Health America (MHA) was founded in 1909 and is the nation's leading community-based nonprofit dedicated to addressing the needs of those living with mental illness and promoting the overall mental health of all Americans. Their work is driven by their commitment to promote mental health as a critical part of overall wellness, including prevention services for all; early identification and intervention for those at risk; integrated care, services; and support for those who need it, with recovery as the goal.

More information and educational resources can be found at <https://www.mhanational.org/>

17. Teen Mindfulness: Breathe Deeply 4-H Lesson

This 2-page lesson guide can be used by educators or leaders and provides activities that encourage youth to identify worries and strategies to help address them.

This resource can be found at

https://ohio4h.org/sites/ohio4h/files/imce/books_resources/Designteam/Mindfulness%20Lesson_0.pdf

18. Farmer and Ranchers Stress Assistance Networks

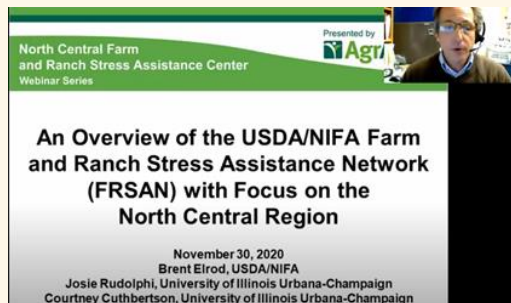
This 45-minute webinar is the first of a series of quarterly webinars hosted by the North Central Farm and Ranch Stress Assistance (FRSAN) Center. Brent Elrod, USDA-NIFA, provides an overview of FRSAN, including federal legislative authorization, requirements and funding history. FRSAN was established to provide assistance to individuals engaged in farming and agriculturally-related occupations. There are five regional networks: Northeast, South, North Central, Western, and 1890. Extension professionals can participate in the work of the networks, and/or use their educational outputs to support the farming population in their area.



VIDEO

This 45-minute webinar is the first of a series of quarterly webinars hosted by the North Central Farm and Ranch Stress Assistance (FRSAN) Center

<https://www.youtube.com/watch?v=Ud1rRS1vK-o>



19. Stressors and Resources for Farm/Ranch Families with Disabilities



VIDEO

This 60-minute webinar, conducted on February 25, 2021, is for professionals and producers with disabilities. Dr. Bob Fetsch, retired Colorado State University Extension family specialist and Carey Portel, farmer from Missouri and a national speaker, are featured

<https://www.youtube.com/watch?v=38x7L3pxvx8&feature=youtu.be>



20. Farm and Ranch Family Stress and Depression: A Checklist and Guide for Making Referrals

This checklist is authored by Robert J. Fetsch, Human Development & Family Studies Colorado State University, and Roger T. Williams, Professional Development & Applied Studies University of Wisconsin-Madison. It can be used by professionals to assess evidence of stress. The checklist is located at: <https://extension.colostate.edu/disaster-web-sites/farm-and-ranch-family-stress-and-depression-a-checklist-and-guide-for-making-referrals/>

21. Addressing Depression, Alcohol and Farm Stress

This 2020, 72-page overview of substance use and mental health among farmers could be helpful to Extension professionals as background information. It could also be used with health professionals and communities to understand better how the farming population may use substances as self-treatment for farming stress. Key data are conveyed in visuals. An extensive list of references and one of the resources are included. Farmer's scenarios accompany suggestions for how to respond, which could become a teaching tool. Depression, Alcohol and Farm Stress: Addressing Co-Occurring Disorders in Rural America is located at: <https://mhttcnetwork.org/centers/mountain-plains-mhrtc/product/depression-alcohol-and-farm-stress-addressing-co-occurring>

22. Farm State of Mind Resource Directory

The American Farm Bureau released the Farm State of Mind Resource Directory in May 2021 during Mental Health Month. The directory lists resources for farmers and ranchers and their families dealing with stressors and mental health challenges. The directory is available at: <https://www.fb.org/land/fsom>

FINANCIAL MANAGEMENT

For many farmers, farm families, and farm operations, major stressors include managing cash flow for the farm and the household, maximizing net worth and minimizing debt, planning for retirement and health care coverage, determining contingency, and transition and succession plans. Cooperative Extension Financial Management or Family Resource Management Educators and Specialists offer personal finance programming on a variety of topics relevant for farm families. Agriculture farm management, economics and risk management specialists, and educators also offer a variety of programs to support producers and their workers.

There are many resources available to support farm operators and their families in these areas. However, developing cross-subject matter programming to build resilience will be key to changing outcomes for clientele. By determining strategies to engage stakeholders, community decision makers and policymakers will enhance their ability to develop approaches to assist rural areas and farm populations. A few examples are included here. Tools are provided in three categories: 1) Assessment tools; 2) Tools for farmers and farm family audiences and 3) Tools for Professionals and Key Stakeholders.

Assessment Tools:

PERSONAL FINANCE

1. Consumer Financial Protection Bureau Financial Wellness Scale

The financial well-being scale is a free tool to help measure the financial well-being of the people you serve. The scale, which was developed and rigorously tested by The Bureau, contains ten questions to capture how people feel about their financial security and freedom of choice, plus two questions to assist with scoring. Responses to the questions can be converted into an overall financial well-being “score” between 0 and 100. This survey is available in English and Spanish.

The tool and guide for using the tool can be found at <https://www.consumerfinance.gov/practitioner-resources/financial-well-being-resources/measure-and-score/>

2. Personal Finance Assessment Tools

Dr. Barbara O’Neill of Rutgers University Extension developed several quizzes that can be used in programming to help participants to self-assess. These are now located <https://njaes.rutgers.edu/money/assessment-tools/>

- Financial Fitness Quiz - how well you have managed your money.
- Personal Health and Finance Quiz- a survey regarding health practices and financial practices that prompts people to simultaneously assess both aspects of their lives.
- Personal Resilience Resources Assessment Quiz – assess available resources that can help them cope with financially stressful situations.
- Investment Risk Tolerance Quiz- Assesses your propensity to take risks and your investment practices.
- Wise Credit Management Quiz- Assess your frequency of performing recommended credit and debt management practices.

FARM BUSINESS FINANCE

1. Oklahoma Farm and Ranch (Financial) Stress Test (Factsheet: AGE-237)

The farm stress test is designed to provide insight into sources of farm financial stress and the extent of stress. It highlights a few key financial measures and provides a visual interpretation of the numbers. This test can be found at <http://dasnr22.dasnr.okstate.edu/docushare/dsweb/Get/Version-4797/F-237web-color.pdf>

2. Interpreting Financial Statements and Measures (IFSaM)

Using your financial statements effectively is important. This online, self-paced tool will help you 1) learn how to use your financial statements in day-to-day management, 2) understand how to interpret common financial statements, 3) acquire a powerful skill set to enhance your farm business, and 4) help you gain self-confidence in the area of finance. This resource can be found at <https://ifsam.cffm.umn.edu/>

Tools for Farmers and Farm Family Audiences:

There is a wide range of financial topics that fall into this area, including personal finance, retirement planning, financial business planning, and contingency, succession, and transition planning to name a few. Cooperative Extension provides programming in these areas. Here are a few resources:

1. Extension Risk Management Education Centers

These centers provide resources and grants to support programs that assist farmers in managing risk in the areas of production, price/market, legal/institutional, financial, and human. The website for grant information can be found at <http://extensionrme.org/>

This site also curates the agriculture risk and farm management documents, videos, and presentations that can help educators find the information needed. It can be found at www.AgRisk.umn.edu. The library has several major components including:

- Documents & Videos – 2,000+ organized by Production, Marketing, Financial, Legal, and Human Risk topics
- Crop & Livestock Budgets – Over 2,700 crop budgets representing over 280 crops and more than 400 livestock budgets from over 30 states
- Collections – Collections give you access to materials focused on a specific topic or developed as a comprehensive curriculum
- Conference Materials – A continually growing list of presentations from agricultural conferences.
- Many Cooperative Extension educational resources and programs are identified in this library and it is an excellent place to see what has been conducted in other states.

2. Annie's Project

This organization provides educational programs (Annie's Project, Managing for Today and Tomorrow, and Inspired by Annie's Project) designed to strengthen women's roles in the modern farm enterprise. The mission is to empower farm and ranch women to be better business partners through networks and by managing and organizing critical information. This resource can be found here:

<https://www.anniesproject.org/>

3. Making Family Business Decisions

This Iowa State University Extension publication provides guidelines for conducting effective family business meetings. The resource can be found at <https://www.extension.iastate.edu/agdm/wholefarm/html/c4-72.html>

4. Workbook for Ranch Transition When You Aren't in Control

This University of Nebraska Extension publication provides a resource for helping individuals plan discussions and provides strategies to address farming issues when they are not the key decision maker. The resource can be found at

<https://extension.unl.edu/statewide/centralsandhills/2018%20Workbook%20for%20participants%20-%20complete.pdf>

5. Financial Security for All

At the Extension Foundation variety of topics are covered in articles and/or online learning modules that are provided by the Extension community focusing on personal financial management. From basic money management to retirement planning to understanding investing. The homepage is located at

<https://personal-finance.extension.org/financial-security-for-all-learning-lessons/>

6. My Retirement Paycheck

Developed by the National Endowment for Financial Education, this resource allows participants to explore the eight aspects of one's life that work together to make up a retirement paycheck. The decisions made produce or reduce retirement income. A nest egg can last much longer when different streams of income are pieced together and informed decisions within each interrelated decision area are made. The tool can be found at <https://www.myretirementpaycheck.org/>

7. Planning for a Secure Retirement

This online educational series walks participants through the process of estimating retirement needs and determining next steps. Developed by Purdue Cooperative Extension, it can be found at

<https://ag.purdue.edu/programs/areyouprepared/secureretirement/Pages/default.aspx>

8. Your Money Your Goals

Your Money Your Goals is a set of financial empowerment materials for organizations that help people meet their financial goals by increasing their knowledge, skills, and resources. Developed by the Consumer Financial Protection Bureau, these materials can be found at <https://www.consumerfinance.gov/practitioner-resources/your-money-your-goals/>

9. Counting Your Money Calendar

Developed by Ohio State University Extension, the Counting Your Money Calendar (\$8.50) is a tool that helps people track their income and expenses. It provides a fillable calendar and budget worksheet as well as information about other OSU Extension resources. It can be found at

<https://extensionpubs.osu.edu/counting-your-money-calendar/>

10. AgPlan

AgPlan is a website developed by the University of Minnesota's Center for Farm Financial Management to help rural businesses develop a business plan. It is free of charge for anyone to use individually or in educational programs and is designed to provide customized assistance to different rural businesses.

Each business type has an outline designed specifically for that particular type of business, tips or questions that help you develop each section of the plan, sample business plans, and links to additional resources for each section of the plan. AgPlan is designed to help a business owner work with an educator or consultant while developing a business plan. Owners can give access to their business plans to the reviewers of choice, and AgPlan will facilitate interaction with them. Available at: <https://agplan.umn.edu/>

11. Ag Transitions

The Ag Transitions website helps farmers & ranchers develop a plan to transition their business to the next generation. On the site, it will help farm operators develop their transition plan, learn what needs to be included in the plan, and use tips and resources. It will help stimulate multi-generational discussions. Users can share the plan with family members, key advisors, and the transition team for feedback and assistance.

Developed by Center for Farm Financial Management at the University of Minnesota and the resource can be found at <https://agtransitions.umn.edu/>

12. Health Insurance & Farm Risk Management

This video resource summarizes the recent 2017 USDA study regarding health insurance and farm operations. It helps set the stage for the importance of health care coverage, health care, risk management, and insurance. Developed by University of Vermont Extension Risk Management Education. It can be found at <https://www.hirednag.net/resources-for-farmers>.



13. Healthy Farmers, Prosperous Farms



VIDEO

This 6-minute video speaks to the importance of farmer health as it relates to farm vitality and prosperity. It summarizes research findings regarding farmers, access to care, and insurance coverage. Developed by the HIREDnAg project, the video can be found on the hirednag.net website.

<https://vimeo.com/236252854>

**Healthy Farmers
Prosperous Farms**

14. Women for the Land



VIDEO

Women own and farm or co-farm 43% of U.S. farmland. They face gender-related issues in managing their land. They are under-represented in USDA and conservation programs. The American Farmland Trust offers help for women. Their 1-minute video explains their Women for the Land Learning Circles.

Site: <https://farmland.org/project/women-for-the-land/>

Video: <https://youtu.be/aM4By4-9DoY>



Tools for Professionals and Key Stakeholders:

1. Defining Stakeholders for Agriculture

This table outlines key stakeholders for agriculture and was developed by the Integrated Environmental Health Impact Assessment System. It can be found at http://www.integrated-assessment.eu/eu/guidebook/defining_stakeholders_example_agriculture.html

2. A Framework to Assess the Resilience of Farming Systems

The resilience of a farming system is defined as its ability to ensure the provision of the system functions in the face of increasingly complex and accumulating economic, social, environmental, and institutional shocks and stresses through capacities of robustness, adaptability, and transformability (Meuwissen et al., 2019). This framework provides a tool that can be used to assess a farm's robustness, adaptability, and transformability in relation to challenges. The article, framework and resources can be found at <https://www.sciencedirect.com/science/article/pii/S0308521X19300046>

3. National Association of Personal Financial Advisors (NAPFA)

Is the country's leading professional association of Fee-Only financial advisors - highly trained professionals who are committed to working in the best interests of those they serve. The association provides support and education for over 3,700 practitioners all over the country and is governed by the NAPFA Board of Directors and supported by our four Region Boards. More information and to find a local advisor go to: <https://www.napfa.org>

4. Association for Financial Counselors, Planners and Educators

The mission is to ensure the highest level of knowledge, skill, and integrity of the personal finance profession by certifying, connecting, and supporting diverse and capable professionals who serve communities worldwide. Referral information can be found by location by going to: <https://www.afcpe.org>

5. Coalition of Agricultural Mediation Programs

This is a network of USDA certified state programs offering mediation services to the agricultural community. As of late 2019, 42 certified state programs were in operation.

From farm credit issues to disputes over participation in USDA programs, the state mediation programs demonstrate that regardless of the nature of the dispute, mediation can improve communication and repair the relationship between the parties, enable the parties to tailor solutions that work for them, and is generally faster and cheaper than traditional litigation. More information can be found at <https://agriculturemediation.org>

PERSONAL, FAMILY, FARM AND COMMUNITY RESILIENCE

As emphasized in this guide, personal and family resilience are a big part of farm vitality. On the individual level, resilience characteristics and skills include self-compassion, hardiness, self-control, and managerial skills. Family resilience characteristics include harmony, communication skills, family time, optimism, hardiness, support networks, and flexibility. Family resilience theory advocates that belief systems, organization skills, and communication skills are key to family resilience (McCubbin et al., 1997; Patterson 2002, April, 2002 May; Rosino, 2006; Walsh 2007, 2009, 2012a, 2012b, 2012c, 2013, 2015, 2016a, 2016b). Building human and social resources that assist in developing strong interpersonal interactions are key to the short and long-term functionality of the success of businesses (Danes, 2014; Danes & Lee, 2004; Hanson et al., 2019; Yang & Danes, 2015).

Relationship resilience is built through reciprocal associations between and among people who live and work together, people in their communities, those who benefit from the productivity of the farm, and those making policy decisions about farming. Cooperative Extension has not developed many programs to help build these skills specifically for farm adults and families. The development of farm support networks has happened through programming efforts like field days, agriculture leadership programs, and risk management program series like Annie's Project. Communication has been addressed in business transition and succession planning or retirement planning programs. Family and Consumer Science offered individual and family relations programming that included parenting, aging and life span development topics. The main focus of 4-H is to provide youth an environment to build individual and social relationships in a safe place.

In short, the teaching of and discussion about personal, family, and farm business resilience skills have been supplementary to other programming. Working across program areas can help to bring a more integrated approach to building resilience skills in our audiences. Work by other organizations may provide some guidance and resources. Tools are provided in three categories: 1) Assessment tools; 2) Tools for farmers and farm family audiences and 3) Tools for Professionals and Key Stakeholders.

Assessment Tools

1. Personal/Individual resilience “How to Measure Resilience with These 8 Resilience Scales”

Ackerman (2020) provides eight scales that can be used to assess personal resilience. Three scales that are listed in this article have been shown to be valid measures. The article can be found at

<https://positivepsychology.com/3-resilience-scales/>

Three tools from this article are shared below:

a. Connor-Davidson Resilience Scale (CD-RISC). This scale was originally developed by Connor-Davidson (Connor & Davidson, 2003) as a self-report measure of resilience within the Post Traumatic Stress Disorder (PTSD) clinical community. It is a validated and widely recognized scale. More about this scale can be found at <https://positivepsychology.com/connor-davidson-brief-resilience-scale/>

b. Resilience Scale for Adults (RSA). This highly rated (Windle et al., 2011) resilience scale, was authored (Friborg et al., 2003) as a self-report scale targeting adults. The scale has five scoring items that examine the intrapersonal and interpersonal protective factors that promote adaptation to adversity.

c. Brief Resilience Scale – this is a self-rating questionnaire aimed at measuring an individuals’ ability to “bounce back from stress.” This instrument (Smith et al., 2008) has not been used in the clinical population; however, it could provide some key insights for individuals with health-related stress.

2. Family Resilience Assessment Scale

A scale was developed for a dissertation that can be used to measure family resilience (Sixbey, 2005). The scale has been subsequently referenced as part of other research projects. The scale is based on the work of a variety of family resilience researchers, including Walsh, cited in the reference list of this guide, who has been studying family resilience for multiple decades. Information is located at

<https://ufdc.ufl.edu/UFE0012882/00001>. Extension and research professionals could work together to develop self-assessment tools for Extension audiences.

4. Community Resilience Assessment

In 2019, the National Academies of Sciences, Engineering and Medicine published a report on building and measuring community resilience. They found multiple assessment tools. We have included three.

a. Baseline Resilience Indicators of Communities (BRIC)

BRIC is a 49-item index that measures six categories of resilience: social, economic, community capital, institutional, infrastructural, and environmental. Data from 2015 are available by counties in the United States: <http://artsandsciences.sc.edu/geog/hvri/bric-2015-state-maps>

b. Community Assessment of Resilience Tool (CART)

This survey can be conducted within communities, in-person, via telephone or mail, and online. The 21 core community resilience items, combined with demographics of participants and questions

about local issues are measured. Additional information located at: <https://start.umd.edu/research-projects/community-assessment-resilience-tool-cart>

c. Rural Resilience Index (RRI)

Developers of the RRI designed it to be a user-friendly, process-based, qualitative resilience assessment instrument. The RRI uses a whole community approach and values citizen engagement (Cox & Mamlen, 2015).

Tools for Farmers and Farm Family Audiences

1. The Road to Resilience

People generally adapt well over time to life-changing situations and stressful conditions. What enables them to do so? It involves resilience, an ongoing process that requires time and effort and engages people in taking a number of steps. The website is intended to help readers with taking their own road to resilience. The information describes resilience and some factors that affect how people deal with hardship.

Much of the content focuses on developing and using a personal strategy for enhancing resilience. Developed by the American Psychological Association. <https://www.apa.org/helpcenter/road-resilience>. A printed pdf version can be found at: https://www.uis.edu/counselingcenter/wp-content/uploads/sites/87/2013/04/the_road_to_resilience.pdf

2. Building Resilience Together

Everyone faces the stress of adversity and change. For people working in agriculture, that adversity and change can be even more challenging.

Building Resilience Together is a way to improve your resilience by intentionally working on your social support system. Social support is a critical part of your resilience. By working on your social support system alongside a small group of other women in agriculture, you'll develop ways of thinking and doing that will contribute to your resilience. This resource can be found at https://agrisk.umn.edu/Library/Record/building_resilience_together_8_week_guide

3. Keys to Resilience: Transformation through Adversity

Based on the Walsh model, Wisconsin Cooperative Extension has developed a short program and resource materials to be used with audiences that will help them understand factors that contribute to family resilience. More information can be found at <https://fyi.extension.wisc.edu/familyresilience/>

4. Strengthening Families Program

The Strengthening Families Program is for parents and youth 10-14 and is delivered in seven parent, youth, and family sessions using narrated videos portraying typical youth and parent situations with diverse families. It is an evidence-based program showing success. Information about the program and becoming certified to use the material can be found at <https://www.extension.iastate.edu/sfp10-14/>

5. National Extension Relationship and Marriage Education Network

A multistate group of Extension and faculty that support Extension educators and professional partners who are working with youth and adults to enrich couple relationships. They provide several educational programs and offer train-the-trainer opportunities. More information can be found at

<https://www.fcs.uga.edu/nermen/nermen>

6. Preparing the Next Generation to Take Over the Family Business

This PowerPoint presentation Bernie Erven, Professor Emeritus, Ohio State University, outlines the roots of family business succession challenges; provides some guidelines for leaders of management succession and for the next generation; and identifies some key communication strategies. It is included in this list of tools as an example of the types of human and social capital resources and resilience factors that need to be developed for farm operators and their successors.

It can be found at

<http://www.hort.cornell.edu/expo/proceedings/2011/General%20Session/Management%20Succession%20Preparing%20Next%20Generation%20New%20York%20January%202011.pdf>

7. Checking Your Farm Business Management Skills

Significant financial and economic stress is facing many farm families, and a number of them are attempting to assess their potential to not just survive the current period of low prices and incomes, but to be viable, long-term participants in the agriculture of the future. This is a critical issue for Indiana farm families—will the business be positioned for long-run financial success after struggling through short-run financial stress?

The checklists in this publication can assist you in assessing whether you have the required skills. Given the profound changes in the agricultural industry and in the farming environment, it is essential to honestly assess your managerial skills and capacities, and to improve those skills if your assessment indicates that you come up short or are vulnerable.

This resource can be found at <https://www.extension.purdue.edu/extmedia/ID/ID-237.pdf>

Tools for Professionals and Key Stakeholders

Resources for professional development and key stakeholders can be found in a variety of places because different disciplines are using the resilience framework. Most typically it is with child and family development.

1. Building Resilience and Reducing Risk: What Youth Need from Families and Communities to Succeed

To bring a family focus to policymaking, key stakeholders in Wisconsin developed this document. It provides a checklist for policy makers as well as background information on a number of youth development and family topics of importance for youth and family wellbeing and resilience. The document can be found at https://www.purdue.edu/hhs/hdfs/fii/wp-content/uploads/2015/07/s_wifis10report.pdf

2. Farm Family Stressors: Private Problem, Public Issue

This policy brief, and its accompanying executive summary, was written to explain the impact of ordinary and extraordinary stressors on farm families. The brief contains talking points and seven possible policy actions. It could be used to open conversations with professionals and stakeholders. The brief can be found at <https://www.ncfr.org/resources/research-and-policy-briefs/farm-family-stressors-private-problems-public-issue>

3. The Stalwart Family Case Study

The Stalwart Family Case Study was created to engage the farming population and professionals who provide support to the farming population, in understanding stressors, risk, and resilience factors. The case study was pilot-tested with a group of mental health professionals on Delaware's and Maryland's Eastern Shore. It was developed by Extension professionals from the University of Delaware Cooperative Extension and University of Maryland Extension. The case study is located at:

<https://extension.umd.edu/sites/default/files/2021-05/Stalwart%20Family%20Farm%20Case%20Study.pdf> and the site is at: <https://extension.umd.edu/programs/agriculture-food-systems/program-areas/integrated-programs/farm-stress-management/stress-management>

4. Preventing Adverse Childhood Experiences (ACEs): Leveraging the Best Available Evidence

Adverse Childhood Experiences (ACEs) have been linked to risky health behaviors, chronic health conditions, low life potential, and early death. As the number of ACEs increases, so does the risk for these outcomes (21). ACEs are potentially traumatic events that occur in childhood (0-17 years), such as experiencing violence, abuse, or neglect; witnessing violence in the home; and having a family member attempt or die by suicide. Also included are aspects of the child's environment that can undermine their sense of safety, stability, and bonding, such as growing up in a household with substance misuse, mental health problems, or instability due to parental separation or incarceration of a parent, sibling or another member of the household.

Traumatic events in childhood can be emotionally painful or distressing and can have effects that persist for years. Factors such as the nature, frequency, and seriousness of the traumatic event, prior history of trauma, and available family and community support can shape a child's response to trauma.

The CDC has developed this resource to help states and communities leverage the best available evidence to prevent ACEs from happening in the first place, as well as lessen harms when ACEs do occur. This resource can be found at <https://www.cdc.gov/violenceprevention/pdf/preventingACES.pdf>

5. Resource for Outreach

As educational programs increasingly moved to online delivery during the COVID-19 pandemic, Extension professionals developed their skills to use such platforms as Zoom. In 2020, the American Farmland Trust and University of Vermont released Reaching Women in Agriculture: A Guide for Virtual Engagement. Educators might increase the efficacy of programming for women by using the guide available at: https://s30428.pcdn.co/wp-content/uploads/2021/02/Reaching_Women_in_Ag-Guide_for_Virtual_Engagement_2_2021.pdf

6. Using Readers' Theater for Supporting the Health and Safety of Farmers and Their Families

Readers' Theater is a tool to teach and provoke thought among community members. Dr. Deborah Reed developed an award-winning reader's theater to teach farmers about health and safety. The work she did was supported by a National Institute for Health grant. She is an Extension Specialist at the University of Kentucky with a joint appointment in the College of Agriculture, Food and Environment and the School of Nursing.



VIDEO

In this 46-minute video from October, 2020, Dr. Reed offers guidance on using theater with agricultural communities, introduces viewers to a tool kit, and shares stories of communities using the method as a free-standing approach or as a component of other meetings.

Video:

<https://www.youtube.com/watch?v=aipRAiwRNo8>

USING READERS' THEATER FOR SUPPORTING THE HEALTH AND SAFETY OF FARMERS AND THEIR FAMILIES

DEBORAH B. REED, PHD, MSN, RN



University of Kentucky
College of Agriculture,
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Cooperative Extension Service

WRAP UP:

The key to using the Farm and Family Risk and Resilience Socio-Ecological Model will be to plan programming that addresses knowledge and skill-building for risk management and resilience. By integrating the breadth and depth of risk and resilience, multi- and cross-disciplinary approaches will likely increase or maximize benefits to individuals, families, communities, and systems that support farming operations. Though effective research, grounded programming is occurring, a review that integrates the socio-ecological model will be needed.

New and existing programming may bring greater meaning and impact for Extension audiences. The evaluation and assessment components of programming can provide evidence of impact.

Working with professionals from other disciplines will enrich content. In this way educators and researchers will be better able to guide individuals to behavior change for their own lives and farming enterprises and promote condition changes in their farming communities and beyond.

By integrating the breadth and depth of risk and resilience, multi-and cross-disciplinary approaches will likely increase or maximize benefits to individuals, families, communities and systems that support farming operations.

Chapter 4: Where Do I Start?

Developing farm and farm family risk management and resilience skills is no easy task. The system is complex, and it will take time to determine needs and identify strategies that will help support farms, farmers, and farm families using multiple systemic approaches.

Developing risk management and resilience skills is also exacerbated by the lack of resources grounded in the socio-ecological approach. Tools and programming will need to be adapted to take into consideration risk and resilience approaches as well as the socio-ecological systems that support the farms, their families and workers, and the communities in which they live.

So where do you start?

STRATEGIC PLANNING

Strategies to build resilience and strengthen resilience thinking and practice include:

1. **Consider** the value of resilience thinking to the farmers, farm families, and communities with whom you provide education and other professional services. Weigh how the approach might reduce the negative impact of stress and crises among those you serve.
2. **Broaden** self-understanding of the interconnectedness between the ecological, social, and relational factors that affect farming operations and the human capital and the abilities of farm family members to manage change and stress. Expanded learning can increase professional expertise.
3. **Discuss** with colleagues the appropriateness for, and feasibility of, incorporating resilience thinking into educational programs and other services. Peer learning can increase confidence in adapting current programming to a resilience framework.
4. **Determine** how you and other professionals can provide or expand a network of supportive professionals and peers that can support farmers and farm families in good times and in tough times. This approach will help strengthen the social support network and communities of place, in which farming occurs, interest and practice.
5. **Begin and/or continue** to provide research-based or informed, theory-driven strategies that help build knowledge, confidence, skills, and behavior change with respect to best management practices regarding environmental, agricultural, marketing, financial, production, health, and well-being.

The approach needs to recognize it's not just about the best practice but also about the guidance for planning and adopting new practices and resilience capability that will enhance the farm and farm family's resilience thinking and vitality in the short and long term.

6. **Show** how the work you do is connected to the farm and family risk and resilience socio-ecological model and explain why the connections are important for farm and family resilience.
7. **Incorporate** change and resilience theories in program planning, implementation, and evaluation.
8. **Use** strategies and tools to assist farm operators, key personnel, community members, and policy makers to integrate eco-systems approaches for planning that help manage risk and build resilience thinking. If a resilience approach is valid, the health of the farm and of the farming population should be strengthened.
9. **Work** in partnership with others to develop organizational and community policies and collaborations that support and enhance the physical, mental, emotional, and financial health and wellbeing of farming operations, farmers, their families and workers as well as the communities in which they reside.

Policies and activities should make it easier for agricultural audiences to connect with risk management actions like accessing health care; affording health insurance, connecting to local markets; finding skilled labor; finding off-farm employment and child or adult care, if needed; and adapt to changes in regulations regarding environmental, production, or food safety.

These policies and activities need to address the supports required to build resilience capital for families and farm enterprises. Examples include building strong support networks, creating easy access to care, de-stigmatizing mental health issues, providing low-cost mediation services, finding ways to get products to local and regional markets, finding affordable labor, and identifying creative solutions for training the next generation of farmers so farms can stay viable.

Educational programming can address any or all of these supports. Efforts will do much to strengthen the health and vitality of farming operations, farmers, and farm families as well as the communities in which they are located.

PROGRAM PLANNING

Extension educators understand program planning and are adept at creating programming to increase knowledge and change behavior. Much of our program efforts, however, focus on individuals or the farm enterprise. When taking a more socio-ecological approach, using the strategic planning steps noted above will lead to planning programs that tackle complex topics from multiple levels of the socio-ecological model. Educators can thus create changes at these multiple levels. Program planning can become a bit more complex when using a socio-ecological model but increases the likelihood of impact. Here are a few considerations that educators can use as they move forward in program planning.

1. **Understand issues and problems.** When planning educational programs, it is important to understand the key issues and problems you want to address. These issues and problems should be grounded in needs assessment, current conditions, and understanding of the literature. There will be different perspectives and solutions when addressing issues from multiple levels of the

socio-ecological model. Using literature reviews, this guide, and professionals from a variety of fields will help to understand better the nuances of the issues and the problems you are trying to address.

2. **Name and frame problem and issue.** When working toward developing programming that addresses farm and farm family risk and resiliency, it will be important to identify, name, and frame the issue or problem in such a way that risk management and resilience factor development can be addressed. In addition, program planners who follow the socio-ecological model and resiliency thinking will be tackling the issue from multiple levels of the framework, identifying appropriate strategies of engagement for each of the audiences in relation to desired outcomes.
3. **Identify Outcomes.** Identifying outcomes is critical to selecting strategies for program development and implementation. Effective outcomes achievement will be determined by partners inside Extension and external partners through their expertise and other resources to address issues and problems. Depending on the issue or problem, a variety of community partners, professionals and decision-makers may be needed. Recognize that there may be a variety of programmatic activities and thus evaluation strategies to determine if outcomes are achieved.
4. **Develop Timeline.** The authors recognize that the development of a program plan using an integrative approach will take time. Developing a strategic timeline will be helpful to allow sufficient time yet do the programming within a desired or required timeframe. For example, raising awareness with the community and other professionals may have to come before educational programming can be done with farmers, families, and farmworkers. Working backward in your timeline may be helpful. As an example, in Delaware, significant programming efforts with farmers happen after the first of the year. To prepare our partners and professionals to be aware of the needs and enlist their assistance, working almost a year ahead of time helped them and our Extension colleagues prepare for programming around mental and physical health. This illustrates how thinking through the timeline was essential for successful program implementation.
5. **Use a Program Planning Tool.** The authors created the Program Planning Tool Worksheet to help educators with program planning to prevent or reduce stress and build resilience. The worksheet can be found in Appendix D. The tool allows for using the socio-ecological approach by planning coordinated responses across audience groups based on the interventions that will best meet the needs to address an issue or problem for each audience group. By programming at multiple levels within a timeframe, simultaneous awareness and knowledge building and collective programming can make a greater impact. Specific strategies can be developed based on appropriate theories, current conditions and resources, needs and values of local farmers, families, communities, and existing public policies. When combined with logic models, educators have tools to plan programs for farmers and farm families, for professional development for those who support farmers and farm families, and for informing and engaging stakeholders.

CONCLUSION

The purpose of this guide is to strengthen the ability of Cooperative Extension professionals to reduce risk and stressors and increase the resilience of farms and farming families within the context of a socio-ecological framework. The guide was created to help professionals think and act through a research-based, theory-informed, multidisciplinary approach to addressing problems and issues. More specifically, we provided:

- Evidence of need for and types of programming to reduce risk and stressors and increase resilience in our review of literature
- Two change theories and four resilience theories together can guide decision making program planning and provide a basis for evaluation of impact
- Three logic models to focus program planning by the audience and link inputs to actions to outcomes
- Tools for assessment and teaching individuals, families, professionals, and stakeholders
- An extensive list of references that can be used in seeking grants

"100% of participants in an Extension program thought a risk and resilience approach was worthy of taxpayer' dollars."

We encourage educators to use these tools to change individual responses and systems that impact individuals and farms' health. In one state, 100% of participants in an Extension program thought a risk and resilience approach was worthy of taxpayer' dollars (Jackman et al., 2015).

Appendices

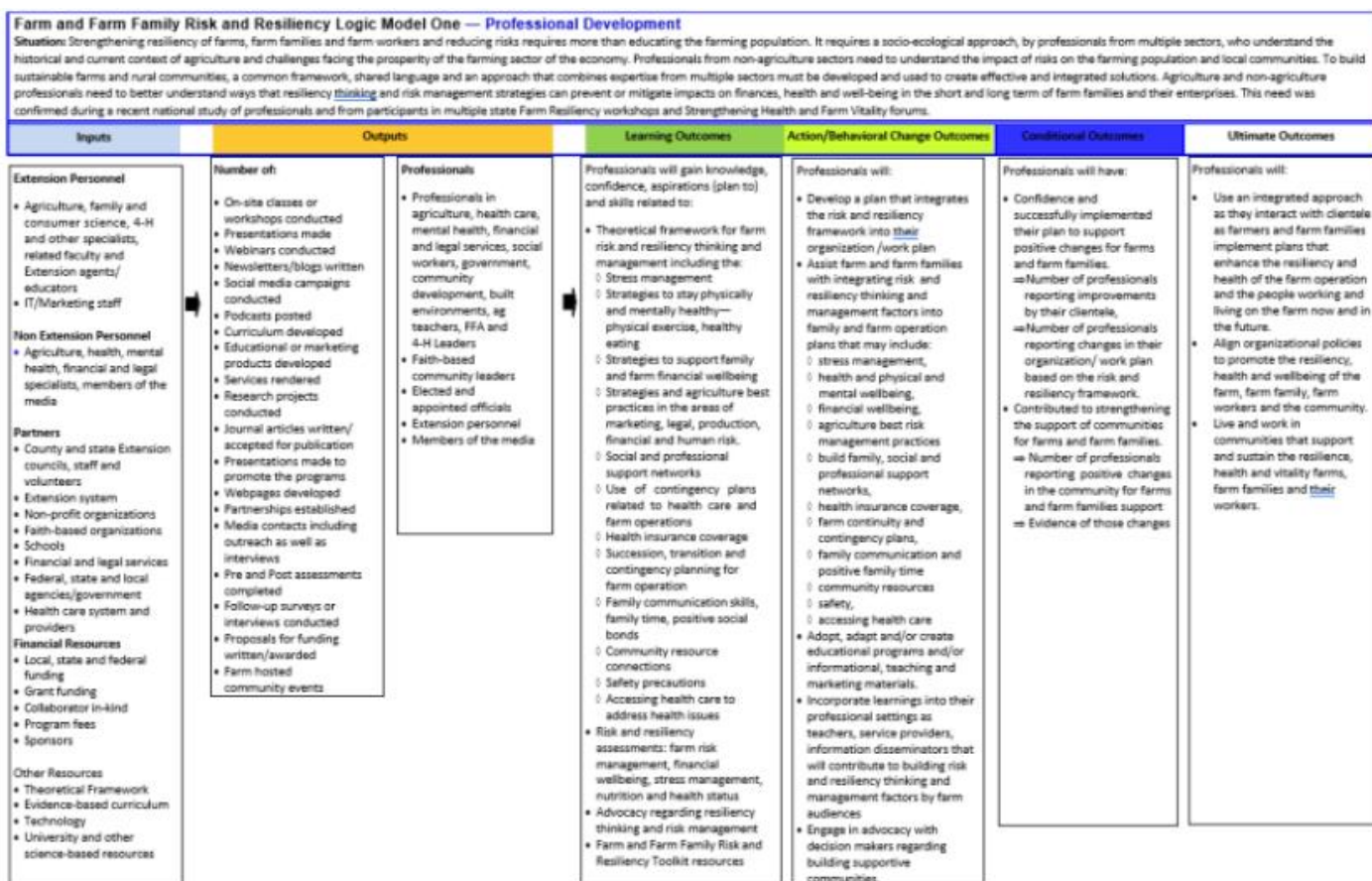
Appendix A: Logic Model One - for Professionals

Appendix B: Logic Model Two - for Farmers, Farm Families and Farm Workers

Appendix C: Logic Model Three - for Stakeholders

Appendix D: Program Planning Tool

Appendix A: Logic Model One - for Professionals

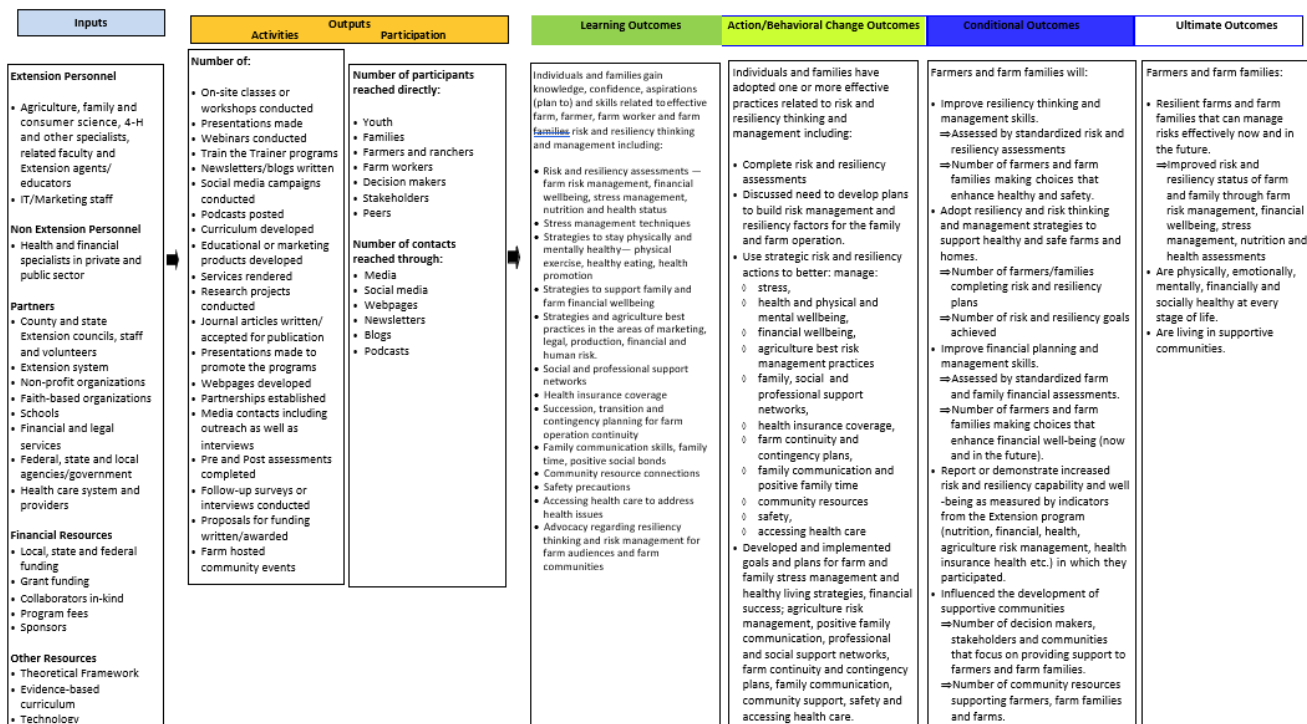


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2019

Appendix B: Logic Model Two - for Farmers, Farm Families & Farm Workers

Farm and Farm Family Risk and Resiliency Logic Model Two — Farm and Farm Families

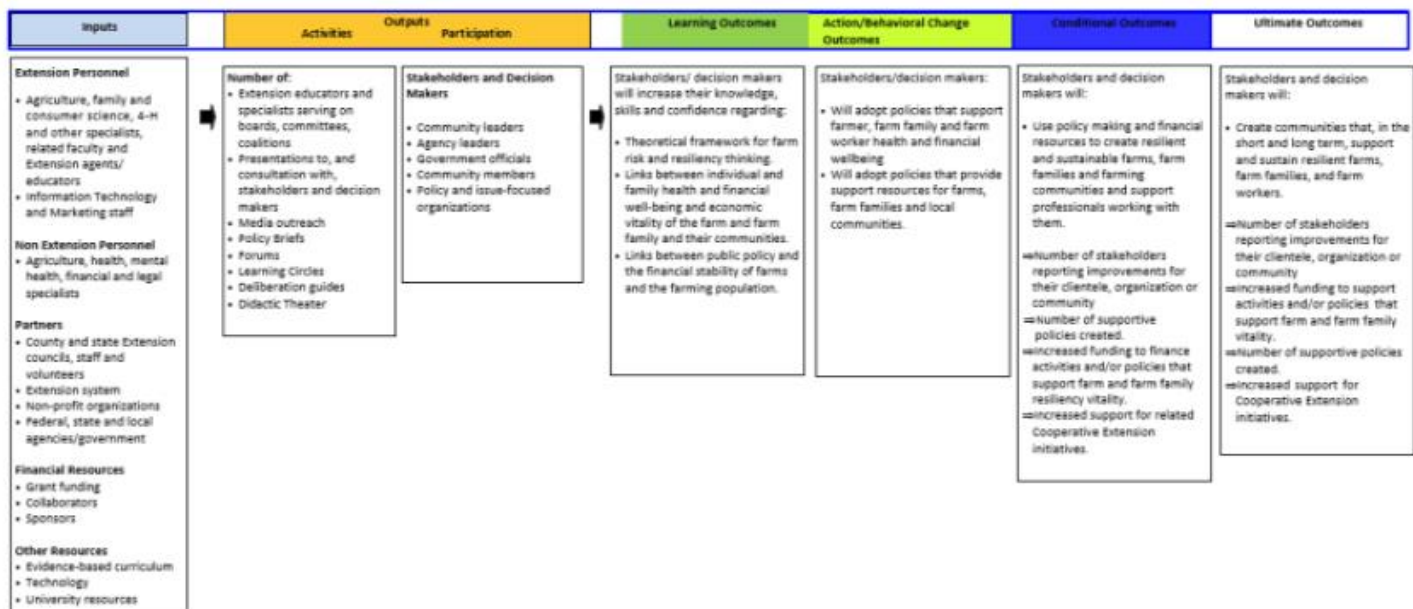
Situation: Farm families experience both ordinary and extra-ordinary stress and change because of the interdependent nature of family farm business and farm family living. Ordinary stresses include the constancy of responsibilities to make or keep the farm profitable; begin and/or retain a farming legacy; juggle on and off-farm work; care for family members; deal with illness or injury; manage multi-generational tensions and handle weariness and loneliness. Extra-ordinary stresses, like bad weather, volatile markets, and tariffs, add pressures to farming enterprises. These pressures impact the health of the farm and farming population. Responses to pressures, or stressors, range from faulty thinking to dismay, distress, illness, despair and even suicide. At stake—the future of many farming operations, farm families, farm workers, farming communities, the prosperity of agriculture and the availability of domestic products for our country's citizens. The farming population can benefit by understanding and adoption of skills in resiliency thinking and risk management. They can learn through an integrated informational and educational approach among agriculture, family, finance, community and health professionals.



Appendix C: Logic Model Three - for Stakeholders

Farm and Farm Family Risk and Resiliency Logic Model Three — Stakeholder Development

Situation: Reducing risks and strengthening resiliency of farms, farm families and farm workers requires more than educating the farming population. It requires that communities be supportive. For communities to be supportive, policies, procedures, services, rules and regulations and ways of interacting with the farming population must be integrated across multiple sectors using a socio-ecological approach. The ways communities work must be in alignment with risk and resiliency thinking and actions. Professionals, decision and public policy makers and other stakeholders need to understand risks faced by the farming population, the agricultural economy and ultimately the community and the economy. They need to understand how community support and resources enable the farming population and their farm enterprises to be resilient. They need a common framework and shared language to organize communities to identify challenges, create integrated solutions and institute supports that strengthen finances, health and well-being of the farm, farm family and farm workers. This approach will further strengthen the broader community's economic and social determinants of health and wealth.



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2019

Appendix D: Program Planning Tool Page 1

Framing Resilience Program Planning Worksheet

1. What is the issue or problem you are addressing and why?

What:

Why:

2. What resilience characteristics, capabilities and skills might you focus on with your target audiences to build their resiliency thinking and risk management strategies with respect to the problem/issue you are addressing?

3. To build these capacities within your audience, what would success look like for each of these levels of the socio-ecological model?

Individuals –

Farm Families –

Farm Enterprises –

Communities –

Policy/Decision Makers –

Appendix D: Program Planning Tool Page 2

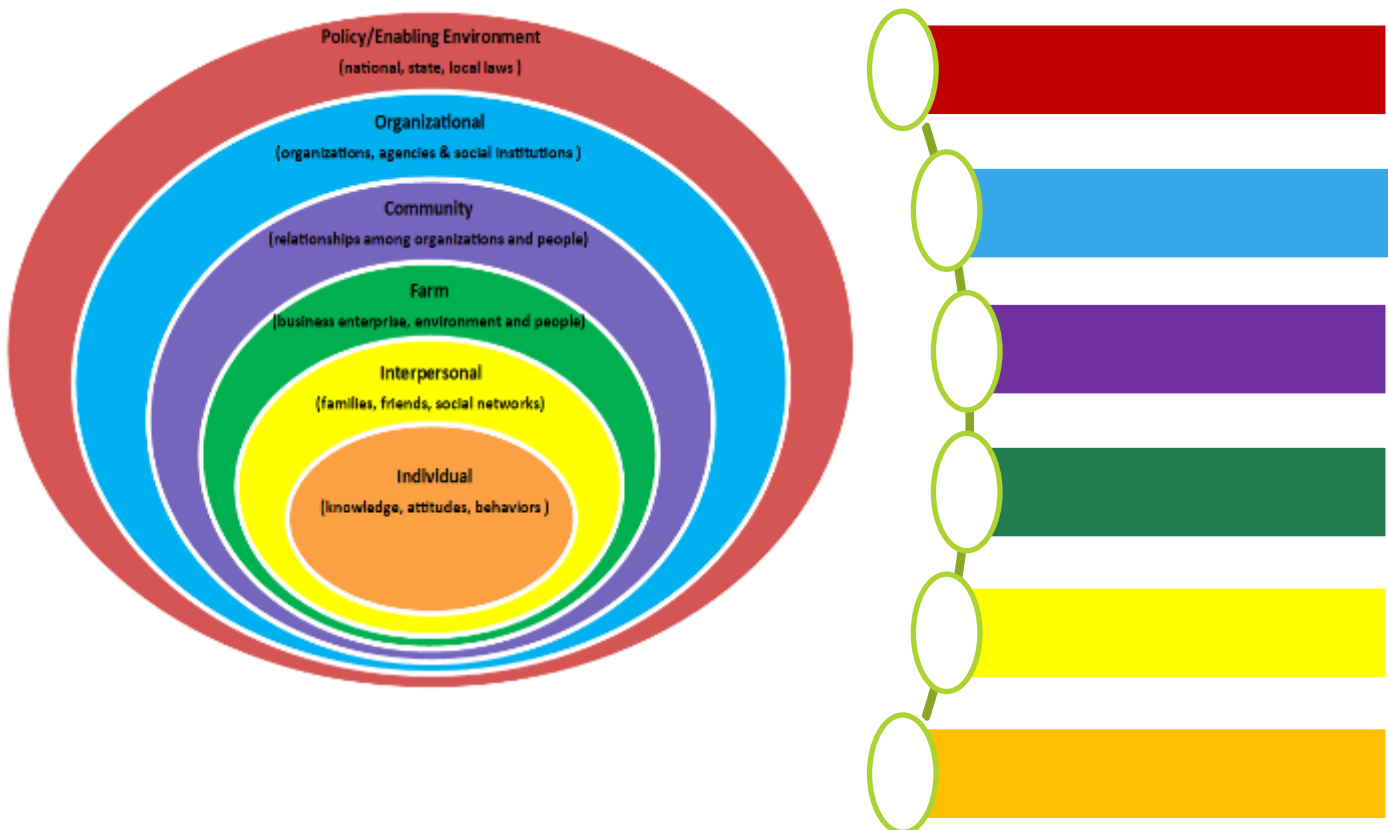
4. What are risk management and resilience factors and strategies that will assist in addressing the identified issue or problem?

Socio-Ecological level	Risk Factors	Risk Management Strategies	Resilience Factors	Resiliency Strategies
Individual				
Family				
Farm				
Community				
Policy/Decision makers				

Appendix D: Program Planning Tool Page 3

Resilience Programming Points of Action and Notes Worksheet

This tool can be used to summarize actions by each level of the socio-ecological model. It's a visual way to see what's planned (and later what was done). Programming can occur at any level. For a sustained impact, programming that addresses all levels will likelihood produce the most resilience building and resiliency thinking.



Appendix D: Program Planning Tool Page 4

Comprehensive Program Planning Worksheet

This tool can be used to bring all components of program planning together.

WHO — Targeted Audience	WHAT -- Outcomes will be addressed?	HOW Will Outcomes will be assessed using which indicators	WHAT Teaching Tools Will be used?	What Assessment Tools Will be used?	WHICH Partners and what contributions?	Timetable?	Responsible Educators?
Individual level							
Family level							
Farm business level							
Community level							
Policy/ Decision makers							

Are there any gaps that should be addressed?

Modified by Maria Pippidis, University of Delaware Cooperative Extension, June 2021
University of Delaware Cooperative Extension and University of Maryland are equal opportunity providers.

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Building Farm and Farm Family Resilience in our Communities



What can we..

What should we...

What will we...

do to reduce risk and increase
resilience of farmers, farm families,
farms, and their communities?

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