

# Southern Resilience and Sustainability: food systems, farms and communities

## Preface

At Meadowcreek<sup>1</sup> a community of several farmers grows mushrooms, grass and cattle, organic vegetables, and medicinal herbs and harvests wild species. As managers, we also help them all fit together in a system which will survive and flourish, in other words, a resilient and sustainable system--the same goal as thousands of other managers of agricultural systems across the South. We've also been privileged to work in more than 30 other countries and learn about how their farmers tackle the wicked problem of becoming more sustainable and more resilient.

These experiences led to the Resilience Project—an attempt to help farms and communities deal with the ever-changing challenge of producing healthy food in the face of innumerable disturbances, whether from climate change or market volatility or input supply glitches or policy perturbations

The ecological resilience perspective on sustainability provides a framework for accomplishing this objective. It has enabled us to create a quantitative measure of sustainability, which we call the Sustainability/Resilience Index or SRI. Throughout this report whenever we mention resilience, you could substitute sustainability. As will become clear in the first nine chapters, resilience is the core of sustainability. (If you are interested in the finer details of the relationship of sustainability and resilience, skip right to Chapter 11.)

We began this work more than twenty years ago with a study of sustainability of agricultural systems in the Southern States. One conclusion of that study was that locally owned processing and marketing was crucial to sustainability.

Since then locally organized food systems have become widespread in the US, but not in the social ecosystems where we live or in similar regions in other Southern states. So we decided to explore how farms and local food systems have managed to survive and thrive in this region not especially congenial to local and sustainably-produced food.

The main question explored in this report is: what qualities beyond locally owned processing and marketing are necessary for sustainability and resilience? Our search for answers led us first to conduct extensive interviews with resilient farmers, processors and marketers who have succeeded in creating resilient local food systems in recalcitrant areas. Some we had followed since we began this study twenty years ago. After comparative analysis of the case studies resulting from these interviews and a myriad of previous ecological resilience studies, seven additional necessary qualities of resilience emerged.

These eight qualities were then examined throughout the Southern region through secondary database analysis. With colleagues at University of Mississippi we combed all the secondary data we could find

---

<sup>1</sup>A 1600 acre learning laboratory for resilient and sustainable systems in the Arkansas Ozarks), see [www.Meadowcreekvalley.wordpress.com](http://www.Meadowcreekvalley.wordpress.com)

(such as the Decennial Census, American Community Survey, Census of Agriculture, USDA Food Atlas) to look for ways to measure and compare resilience of counties across the south using those eight causal factors.

Combining these qualitative and quantitative approaches, we began to understand how resilience and sustainability arise in communities--enabling them adapt to disturbances to our food system. This report details our present understanding of resilience/sustainability in the region where we live, the Southern United States.

Ecological researchers have long sought to understand how ecosystems have survived for longer than human memory and without human management. We've found that resilience of natural ecosystems, farms and food systems all depend on the same qualities.

To apply ecological resilience to our managed landscapes, we must appreciate how resilience appears in natural systems. Therefore, we begin this book with a look at a few paramount concepts underlying ecological resilience: complex adaptive systems theory, the adaptive cycle and the differences between ecological and engineered resilience. These concepts will help frame and clarify the ideas explored in more detail in later chapters. The next eight chapters explore the eight causal factors and the tenth chapter explores the relationship of our eight qualities and frameworks used by other researchers to help ecological and agricultural systems become more sustainable/resilient.

**Next we sought independent opinions on what will most improve sustainability and resilience on Southern farms and food systems.** We surveyed extension agents and other managers of agricultural systems throughout the South. Chapter 12 supplies their advice on how to increase sustainability in each of the 13 Southern States and how this advice reflects the eight qualities of resilient agroecosystems.

Chapter 13 explores an unexpected finding of our work: our index developed to measure agricultural sustainability is highly correlated with health, poverty and population trends. In general, where farmers farm sustainably, health outcomes are better and poverty is lower. Some call this the resilience dividend.<sup>2</sup>

The Appendices details the methods we used in all these analyses.

We don't recommend you read this entire tome at once. As soon as you come across something you can do to make your systems more resilient, go do it. If we don't create action, this book has failed. Man's continuing destruction of the world's innate resilience must be countered. That's why we present case studies where the search for comfort and security has also resulted in resilient systems.

Above all, remember that no theory adequately explains reality. We know that you can find limitations and imperfect predictions in the chapters that follow. Please tell us how this analysis of resilience and sustainability can be refined to help you more. Join the conversation on foundations of ecological resilience at <https://meadowcreekvalley.wordpress.com/projects/land/>.

**Come along with us on the incredibly important journey toward agroecological resilience.**

---

<sup>2</sup> <https://www.rockefellerfoundation.org/blog/realizing-resilience-dividend/>