



ERPI 2018 International Conference  
Authoritarian Populism and the Rural World

**Conference Paper No.39**

**The Kentucky Tobacco Transition: Exploring Transitional Outcomes from a Socio-Ecological Systems Perspective**

*Rebecca Shelton*

17-18 March 2018

International Institute of Social Studies (ISS) in The Hague, Netherlands

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**March, 2018**

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# The Kentucky Tobacco Transition: Exploring Transitional Outcomes from a Socio-Ecological Systems Perspective

*Rebecca Shelton*

## I. Introduction

Increased global connectivity is responsible for reconfiguring the boundaries of many socio-ecological systems (SES). SES, systems which are organized by interacting sets of ecological processes and social institutions, are now coupled- distal systems are connected to one another through flows of material, information, finances, people, and governance structures (Adger et al., 2009; Eakin et al., 2009). As the world becomes increasingly urban, the consumption patterns and resource demands of urban consumers and residents increasingly drive SES dynamics, even in geographically isolated, rural locations (Seto et al., 2012; Liu et al., 2013). Given the natural resources available in a region, rural systems build a niche economy around a product for which there is demand (i.e. raw materials like timber and coal, agricultural products, or even tourism). Recently, this urban-rural power dynamic has been made apparent in consumption shifts that, ironically, are related to sustainability and human wellbeing. Societal value changes made to promote broad-scale sustainability goals (for example, preferences for renewable energy) are desirable for some constituents at one scale but may negatively impact the communities that are economically dependent on the production industry, specifically those responsible for resource extraction or production and initial processing.

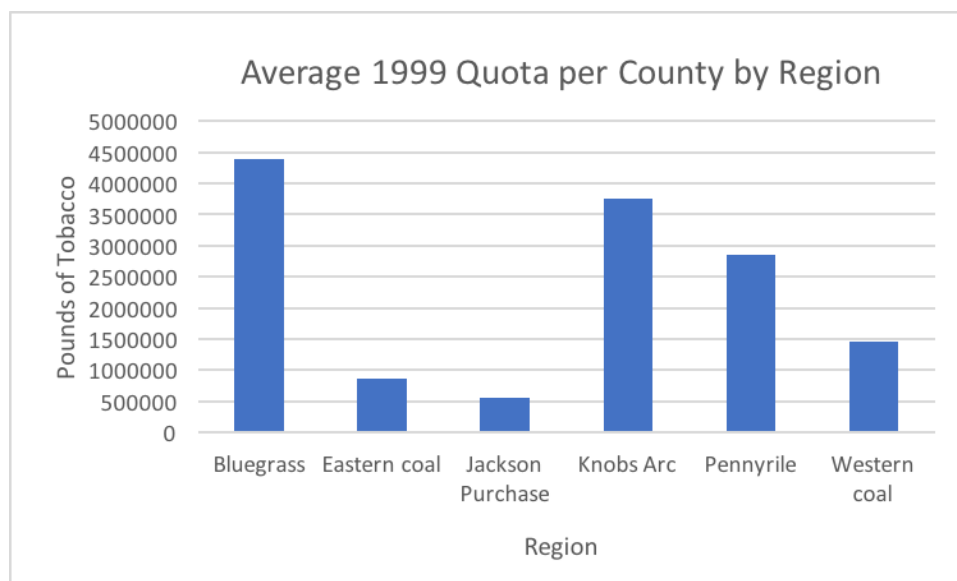


Figure 1: Average county tobacco quota according to the region in 1999.

This research examines one such economic transition in the state of Kentucky. In 2004, driven by changes in consumption due to health concerns, and in surrender to neoliberalism, Kentucky's state government began a process to transition the state out of its primary agricultural crop: tobacco. Kentucky and North Carolina were the nation's largest producers of tobacco and, in the 1990s, Kentucky was the most economically tobacco-dependent state in the USA (Grise, 1989). Tobacco accounted for almost 50% of Kentucky's crop receipts, was grown in 119 out of 120 counties, and had an annual value greater than 1 million dollars in more than 100 of Kentucky's counties (Snell and Goetz, 1997) (Figures 1,2). In 1992, 59,000 of Kentucky's 89,000 farms were growing tobacco, the most profitable cash crop in Kentucky, especially for small farmers (Snell and Goetz, 1997; Wood, 1998). Many tobacco farmers had off-farm jobs to supplement farm income, but several of Kentucky's most tobacco-dependent counties offered few off-farm employment opportunities, making tobacco an even more critical component of their economies (Snell and Goetz, 1997).

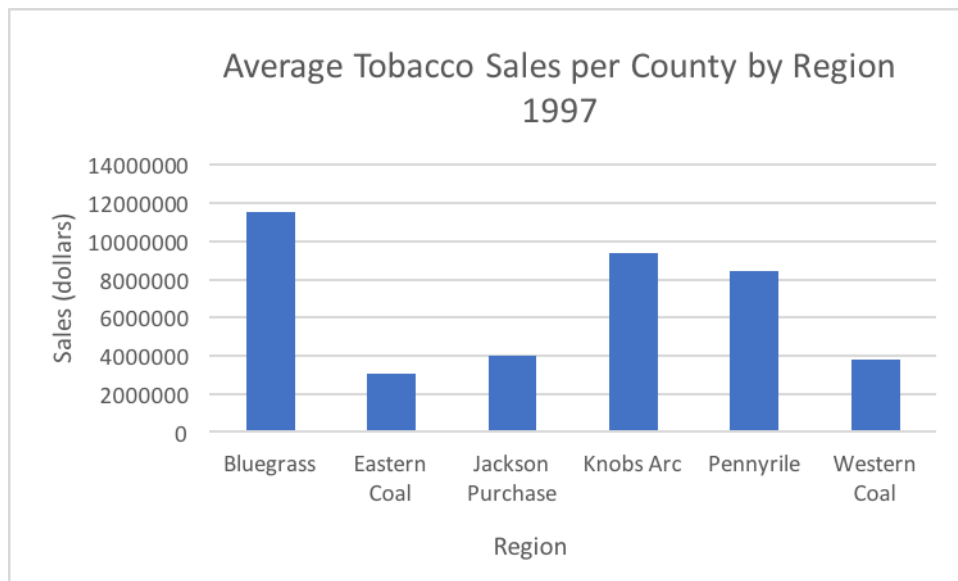


Figure 2: Average tobacco sales per county according to the region in year 1997.

In the 1930s, the federal government developed a price-support and supply-control program for a few major agricultural crops, including tobacco, to protect agricultural economies from changing market dynamics. A quota system was developed to control supply: it attached production quotas to parcels of land distributed across the entire state of Kentucky (and other tobacco-growing states) and assured a minimum price at market so that small farmers would not be out-competed by farms able to use economies of scale or by tobacco production in other states or countries. Each year total quota for the state was calculated in pounds and farmers were guaranteed that the tobacco would be purchased. If the tobacco companies didn't purchase it from the farmer, it would be purchased by the federal tobacco program and stored by the Burley Tobacco Cooperative until the following year. The quota calculation was primarily dependent upon: how much the tobacco companies wanted to purchase, the amount of tobacco in storage from the previous year that the companies did not purchase that would be available in the coming year, and a three-year export average. However, throughout the 1990s, the stability of the tobacco program was threatened by: 1) reduced consumer demand for tobacco due to growing awareness of its negative health effects, and 2) the expansion of tobacco production outside of the United States. Thus, in 2004 after several years of declining quota, the federal tobacco program was eliminated via the Tobacco Transition Payment Program (also referred to as the federal buy-out) as part of the American Jobs Creation Act of 2004.

Because policy-makers were aware that farmers would bear the highest cost of the transition away from tobacco growing, annual payments to growers and quota holders were made over a ten-year period (2004-2014) to compensate them for the quota investment they had made under the price-support program. Additionally, in Kentucky, a second piece of state legislation (House Bill 611) created an agricultural development fund to assist the transition. Part of these funds are controlled by a state development board and another part of the funds are annually distributed to all of the counties in which tobacco was grown based on their prior economic dependence<sup>1</sup> on tobacco. These funds are allocated from the annual compensation the state receives from the Tobacco Master Settlement Agreement: a settlement between tobacco companies and 46 state attorney generals to compensate states for the incurred Medicaid costs related to citizen tobacco use. The state and county funds are in the form of loans and cost-share programs to assist farmers in the development of alternative farm enterprises. Policy makers, extension agents, and agricultural economists at the University of

<sup>1</sup> Economic dependence was calculated by taking into account the percentage of the state's tobacco farms that were located in each county, the percentage of the state's quota that was allocated to that county, and the percentage of personal income that came directly from tobacco sales in that county (B. McCloskey, Personal Communication, December 2016)

Kentucky recognize that the transition has not been successful for all farmers or all rural communities, but they do not understand why not.

With a SES perspective and the rural agrarian community conceptualized as the system of study, the pressures that led to the tobacco transition were external to the communities and the transitional policy was a governance measure intended to steer the communities from the old regime state towards a new, sustainable state (Smith et al., 2005). However, purposive transitions - orienting complex systems towards desired states - is far from simple (Smith et al., 2005; Shove and Walker, 2007). Financial compensation and job creation programs have been effective for some communities facing economic transitions (Evans and Phelan 2016), but for many others this approach has not worked well. Transitional policies are often designed to compensate a community for lost instrumental value of the economy – via compensation, job creation, or education/training programs – but do not compensate for other lost values that were derived from the previous economy; and emerging research in sustainability science suggests that a community's dependency on an economy, particularly a primary industry economy, such as agriculture, is not solely economic but cultural, cognitive, and ecological (FAO; Harner, 2001; Kibblewhite et al., 2008; Marshall et al., 2007; Marshall et al., 2012; Marshall et al., 2016; Shepherd et al., 2015). Communities that are or have been directly dependent on the land for providing a good or service, whether for their own subsistence or as a product for the market, tend to be strongly attached to the material landscape and to those with whom they share the land or livelihood/lifestyle (Adger et al., 2009; O'Brien, 2009; Rist et al., 2006; Turner et al, 2008). The interaction between a community and the landscape is driven by the extraction of a good or service, the landscape becomes symbolically representative of that economy, and the economy becomes a pillar for identity, culture, and place (Harner, 2001; Masterson et al., 2017).

Walker et al. (2012) described that to understand processes of change in SES, researchers must consider that both fast and slow variables affect system dynamics. Economic opportunities for those living in a rural community may change quickly and this change can be supported by transitional policies that assist individuals in pursuing alternative livelihoods and/or income so as to cope with the transition (i.e. the cessation of growing tobacco and the search for substitutable income and alternative farm enterprises). However, human value systems (individual and collective) - foundational for human decisions, attitudes, and behavior – and identity are often formed over lifetimes (Jones et al., 2016; Van der Werff et al., 2013). Folke et al. (2010) suggests that it is important to consider that in socio-ecological systems, variables such as identity and values may be slow or difficult to transform.

Though farm income is no longer the primary income for most rural households and communities, the culture of and identity associated with farming may still be prominent as changes in these variables lag behind economic change (Harner, 2001). In agricultural communities, the strength of vocational and place-based identities can be the primary drivers of that community's social, economic, and ecological trajectory under changing institutional or environmental circumstances (Marshall et al. 2016). Frank et al. (2011) found that for coffee farmers, identity was a primary driver of decision-making and behavior, and therefore directly contributed to an individual's ability to adapt to new economic and environmental circumstances. Therefore, though transitional policy may be useful as a temporary economic stabilizer, it may not always steer the system towards a new stable regime or the desired regime if it is not aligned or implemented with an understanding of community values (Jones et al., 2016).

For individuals that identify as farmers, behavior and decision-making may be primarily directed towards maintaining the current trajectory as a farmer regardless of changing circumstances. However, when efforts to maintain identity diverge from an ability to be economically successful, farmers may experience feelings of personal failure or worthlessness (Heppner et al, 1991; Van Hook, 1990). Though many may then supplement farm income with off-farm income, farmers may not be content to spend days working off-farm; it may be through necessity rather than aligned with preference (Institute of Medicine, 2006).

Through analysis of semi-structured interviews, this research will explore the perceived economic outcomes of the tobacco transition and whether or not farmers have observed any community changes that might indicate system dynamics that were not anticipated by transitional policy. In addition, this research will provide insight not only on economic and community change since the tobacco buy-out, but whom or what community members blame for current circumstances. Understanding culturally shared designations of attributed fault is helpful for imagining if and how a problem/threat might be addressed (Skinner et al., 2003). If blame falls primarily on subjects external to the community there may be potential for community solidarity to emerge whereas if blame falls on subjects internal to the community, decreased cohesion and division may result (Javeline, 2003).

## II. Methods

This research is based upon analysis of semi-structured interviews. In the summer of 2017, forty-one interviews were conducted with farmers and individuals in the private and public sector (Table 1). Interviews were conducted in 13 different counties via respondent-driven sampling in the Pennyrite, Knobs Arc, Bluegrass, and Eastern Coal Field regions of Kentucky. Five of the interviews took place with two participants simultaneously present (on two occasions this occurred with policy makers and on three occasions with farmers). This is not a representative sample of all past and present Kentucky tobacco farmers and thus the number of interviewees that expressed each of the discussed perspectives is included in the text. Our aim within the interviews was to understand the policies that drove the transition, farmer attitude towards the transition, attitudes towards farm economics without tobacco, sentiments about farm community change, and to what drivers or entities, if any, individuals associate these perceived changes. Interviews were digitally recorded and transcribed and coded inductively according to emergent themes using Dedoose Software (Dedoose).

Table 1: A Summary of interviews

Type of individual or organization	Completed Interviews
Tobacco Farmers	20
Agriculture Extension Agents	11
Non-governmental organizations	5
Farm Store workers/owners	1
Policy makers and policy writers	4
Total	41

## III. Results

### A) Economic Outcomes

Interview participants mostly discussed the tobacco quota program and tobacco profits under this program in positive terms. Tobacco made economic sense: even after accounting for labor and input costs, one could still be profitable. Many individuals recounted that one could earn over \$2000 per acre per year, dependent upon soil quality and topography of the farm. An acre or two of tobacco helped families pay for farms, earned money to send children to college, and was often enough so that farmers could even put some money into savings accounts. Interviewees who still grow tobacco reported that, even though the quota program has ended, tobacco farming is still profitable if one is able to acquire a contract with a tobacco company; however, this is difficult to do and highly regulated. Furthermore, the remaining tobacco growers in Kentucky, approximately 4500<sup>2</sup>, assume a certain amount of risk in planting tobacco: though there is still a market for tobacco, the security provided by the tobacco program no longer exists. If the quality of the product is bad, there is no

<sup>2</sup> <https://quickstats.nass.usda.gov/results/7E3A4CCD-C9F8-3362-81F9-1B7E160CE63C>



longer a program that will purchase the tobacco at a minimum price. When asked why they still grow tobacco without the program, a farmer reported:

...I need the income. For what I do in it, it is a lot of stress and I'm not too shabby at it because I've got it down kind of pat. I can draw \$10,000 or \$12,000 clear every year and it helps pay the staff. There has only been like two years since 1998 per se, that I have not made...that I have lost money. One year the guys goofed around and I didn't get the tobacco. It was late October when we were trying to get it in and it turned green. [Tobacco Company] wouldn't buy it, nobody wanted to buy it. I hauled it up to Frankfort and got these people to pay me fifty cents a pound for it. I'm still paying for that. That is a killer when it was bringing upwards of \$2.00. That was the beauty of the Burley Co-Op and the Tobacco Program. If you had your pounds they would buy it at some price and resell it. They are trying to do a little bit, but they can't. Now we are at the mercy of the big, nasty tobacco companies or their purchasing agents.

Though the tobacco program provided market stability, many individuals reported that the end of the tobacco program actually came as a relief. In 2000, the burley tobacco quota underwent drastic cuts. Quotas were cut by 47% due to two unrelated forces. First, a large amount of tobacco from the previous year remained stocked in warehouses, because it was of poor quality due to extreme drought conditions, and the tobacco companies refused to purchase it. Second, purchasers' demand for tobacco decreased due to increasing awareness of the health consequences of tobacco use (USDA-ERS, 2000). During these last years of the program, as quotas were being cut, some growers felt constrained by the program because they were only permitted to grow a certain amount and lease prices on quotas were increasing as more farmers sought to scale up their operations. Additionally, it was very difficult to find sufficient labor. However, despite the relief that the tobacco buy-out originally incited, nearly half of the participants (21) stated that farming no longer makes economic sense or doesn't make enough money. And, when farming is profitable, it is because the farmer does not have to purchase land or make large start-up investments (such as in machinery and other farm infrastructure) and/or because a person is willing to make "lifestyle sacrifices."

When initially talking about the effects of the tobacco transition, many individuals described the cattle success story in Kentucky. Improving cattle quality has been one of the major programmatic efforts led by the state. Many farmers have invested more time and energy in cattle because they can be raised on farms that are small and hilly. In addition, it was one of the easiest enterprises for tobacco farmers to transition to because many already had some kind of a cattle operation. However, there was a large decline in profits from tobacco to cattle. As an extension agent in Madison county explained:

In terms of profitability, tobacco was 2 or 3 thousand an acre if you got really good yields and kept your labor low. Profitability of beef cattle is very much so the other way. In general, we say you can run a cow calf pair on about 2 acres. Our profitability projections for this fall, for cow calf production that came in the spring, it looks like about \$150 a head....they [tobacco farmers] transitioned but they would tell you not to the profit level that they did with tobacco, so probably not particularly well. They just transitioned to what was available. It's tough, that's one of the toughest questions we get. What can we do now? What can we do on the farm to make money if it's not beef cattle here?

This sentiment was also often expressed by farmers. As one farmer stated:

Well, all you got is cattle and there ain't much money in cattle. You ain't going to get rich unless you got 1,000 acres or 1,000 head of cattle; you could make a little bit of money probably. But 40 cows, you don't make that much money; by the time you pay your taxes and insurance there's not very much left.

In response to changed economics, some people, if possible, have scaled-up the size of their farms or pursued off-farm work (or their spouse has pursued off-farm work). An extension agent summarized the economic outlook for a small farmer as thus:

I think if a farmer has his farm paid for- his wife works somewhere to get health insurance and so forth and maybe he does a little part time work then I think they can make it.

There was some agreement among interviewees that it is difficult for many farmers to farm profitably, especially new farmers that have not yet made investments in land and equipment. However, some farmers (4) maintained that through “hard work,” one could still be successful:

“...I think a young boy like [.....] could get out of high school and go to farming and work hard. Somebody that starts in college and borrows all that money and stays in four years. He’s going to be a farmer and has spent four years buying land and everything. They’re going to be sitting in school for four years and paying a debt. They’ll never catch up with you in four years in college. He’s going to have eight years head start on them. If he’s the right kind of person. And I’m not talking about going to town every night and drinking beer and boys play. I’m talking about getting out there and hitting that field. And getting that work every day, that’s what I had to do....”

Though the tobacco transition’s impact on farm economics was not quantified in this research, economic trends in average net farm income over approximately the last 30 years are reported in Shelton (2018). Regional trends show that farm income has increased in the western part of the state (Pennyrile, Western Coal, and Jackson Purchase Regions) but decreased in the central and eastern parts of the state (Knobs Arc, Bluegrass, and Eastern Coal). And, most noticeably in the Knobs Arc, Pennyrile, Bluegrass, and Eastern Coal regions, the counties with the lowest net income were fairly stable at a particular low level until 2000- the year that tobacco quotas underwent drastic cuts.

A fairly steady decline in average net farm income has continued for some counties in the Eastern coal region (Shelton, 2018). According to state policy makers and interviewed NGO representatives, other Eastern coal counties have seen an increase in income given that there has been a concerted effort to support small farmers in producing niche food products. This support has largely come from the state as one of the transitional investments that the state has made is in farmers markets. However, many of those now producing food were not originally tobacco growers. In the Knobs Arc region, there has been a similar, but subtler continued decline in farm income. The range of income in the Bluegrass region, though affected by tobacco, is also affected by another farm product: horses. Thus, some of the change in this region may be due to declining profitability in horse farm enterprises<sup>3</sup>. In the Pennyrile, Western Coal, and Jackson Purchase regions of the state, farm income has continued to steadily increase. Interview participants reported that these regions have flatter topography which makes the land more suitable for farm enterprises that require large acreage and large-scale infrastructure such as grains (corn, soy, wheat), chicken farming, and, in addition, large scale tobacco farming that is no longer constrained by the quota system. Most tobacco farming now takes place primarily in the Western regions (Jackson Purchase, Western Coal, and Pennyrile) of the state (W. Snell, personal communication, November 2016).

In reference to economic circumstances, respondents cast blame on external forces/subjects: the market, the government, and product buyers (Table 2). Despite some fault attributed to government, when prompted to explain how farmers addressed or worked to change economic circumstances, no participants referred directly to political engagement except for two farmers that stated that supporting the agenda of Farm Bureau was one way to affect change. An extension agent explained that, politically, farmers cannot be grouped together; horticulture is different from cattle which is different from other commodity producers, and each has different political interests. Though government-related blame was discussed by several persons, only one farmer cast blame on a specific political party. He said, “I guess a lot of these people think a lot of this stuff [money] grows on trees...these democrats have killed this country...” while one of the farmers that is heavily involved with the Farm

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<sup>3</sup> <http://www.businessinsider.com/bad-time-for-horse-industry-2012-6>



Bureau mentioned that he is hopeful that environmental regulations will be lifted under the Trump administration. In addition, economic blame was also placed on subjects internal to the farm community: on farmers themselves (Table 2). Respondents said that farmers make poor economic decisions regarding the management of their farm enterprise but also how they manage their lifestyle. Farmers that spend money on things that are non-necessity items may be perceived as “at fault” for their own economic challenges.

Table 2: Subjects or entities upon which blame was cast by interviewees for farm economic circumstances

Blame Categories		No. of Respondents	Illustrative Quotes
The Market	Futures Market	3	“It’s global, but everything’s tied to the Chicago board of trade. And that’s a bunch of money people trading futures and the only way they can make money is if those prices fluctuate. And in my opinion – I don’t have the answer to it or how to stop it or anything else – but they manipulate those markets. They’ll drive ‘em up and when they get ‘em in there they’ll sell a bunch of them and then everything falls down and here I am with the commodity bottom fall out and then they go in when it’s cheap and start buying em back to drive them up and sell them off again. I mean that’s how these speculators make money doing it....”
	Middle Men	2	“You got the guy in between who’s usually a millionaire. And he’s making money just like you take a cow and sell it for \$600, and the middle man- he’ll make \$1,200 off of it. All he’s got to do is hold it for a week or something.”
Government	Taxes	5	“Well I just gave, this year I gave two of my farms up that I had rented and sold 60 of my cows ‘cause you know, I worked 7 days a week and it- I sole ‘em and gave two of my farms up because I got to where I had to pay so many taxes. And I had all new farm machinery and I just got tired of payin’ 25 and 30,000 dollars a year in taxes so I just give two farms up and get rid of the cows. Seemed like I was just taking care of those two farms out there to pay taxes.” “I’ve heard farmers say I’ve got to go buy something to be able to write this off on my taxes. Because they just eat me up in taxes. Did you need that tractor or X piece or equipment? Sometimes they do sometimes they don’t. Some people could have been just fine with the tractor they had. Farmers are very independent but they are extremely, I mean nobody wants to pay more taxes. They’re really conscious of that” “I don’t farm for a living. I farm as a hobby. But I do make money. And sometimes it’s pretty good and sometimes not so good but in the pretty good times I don’t want to write a check for it. I worked all year. So you know I go buy machinery. I have several tractors I bought and I really don’t own a farm out here. I farm someone else’s farm. It’s handy it’s close.”
	Other Policy/Regulations	5	“...waters, waters of the U.S. That would’ve put most people, in my mind, in East Kentucky out of the farming business because the EPA wanted to regulate... I’ve got a stream. I guess I call it a branch because that’s what everybody calls it. But anyway, it’s just a small one. It’s dried completely right now. It’s been dry since the first of June. It usually stays dry most of the summer months. This winter, it’ll have water in it. EPA wanted to regulate that under the water. They wanted to expand from navigable waters to all waters.... Well, it’s just like... I’m a hill farmer with grazing land, you know? I’ve got level land, what we had for tobacco, and that’s where we’re producing hay right now. But we graze a lot of hill land. And every one of those feeds to a holler somewhere. And there is no way on God’s earth you can fence all that off and be sustainable. You’ll be out of business.” “One of the big problem with a commercial kitchen is they always throw roadblocks. All we are going to be having is waste water, so you have to dispose of this waste water. You have to have a septic tank or the sewer. The city probably won’t let me hook up to this house, so I probably have to put in a line and pay that fee. It’s crazy. I’m not a big fan of him because I think he makes more money writing books than he does farming, but Joel Salatin. Everything I Want to Do Is Against The Law.”

	Apathy	1	<p>“Why would they care? For example, why would a politician care about, like a Senate representative, why would they care about [X] County? They don’t even come here to campaign because it’s not a deciding factor in their decision to get elected or not. They’re going to go over to the bigger cities, they’re going to concentrate there. Why, this...we’re just a red-headed stepchild to some extent. They don’t...it’s no big deal to them.”</p>
<b>Product Buyers</b>	Tobacco Companies	9	<p>“The tobacco companies, they are the biggest crooks in the country. They have robbed the farmers for many many years and they’re still doin it. They’ve got a license to steal.”</p> <p>“It’s hard. A lot of times companies don’t want to talk to you. Last year the CEO/President of Reynolds had a \$13 million bonus. I don’t care who you are, that’s a lot of money for a bonus. Here we are and maybe some people are below cost production. I’ve got some papers and this was years ago, the average pack of cigarettes was three cents went to the farmer. Now five or six dollars a pack, and now I would say we are bringing in about two cents a pack.”</p> <p>“I know you it’s hard to believe, but it’s always been a battle between the growers and the companies since I can remember, and I’m 71 years old.”</p>
	Other Buyers	1	<p>“the whole relationship to the burley co-op and all that, everything changed. So you just got really, and I only had a couple years of experience, but you really became much more at the mercy of the companies whereas the quota system, the program, you had the co-op working as an intermediary and I think generally most people thought the co-op was acting in their best interest. So yea, the whole dynamic changed- it went towards the same thing, it kind of didn’t matter if you were raising chickens, hogs, or tobacco when you’re under a contract kind of scenario.”</p>
<b>Farmers, themselves, are to be blamed</b>	Poor Decision Making	3	<p>Farmer: “It is market, but farmers ruin themselves. Corn goes to \$8.00 and you will find corn in every nook and cranny in America. Then it goes to \$4.00 and they keep growing it because they started it, invested and don’t know what else to do. Tobacco is the same way. Not as drastic but if tobacco has a good year, the price goes up a little bit and the companies are looking for it, you will see a lot of growers increase or maybe a few people jump in the business and the market price will go right back down. That is the nature of the game and I understand that, but the farmers do it to themselves pretty badly all the time.”</p> <p>Policymaker: “we’re talking about how we have to help the top third a ton, and the middle third a bunch, and there’s a bottom third that maybe don’t wanna be helped. So how do you motivate them? How do you give them the passion to step up? I don’t know and we haven’t figured that out just yet.”</p>
	Lack of Lifestyle Sacrifice	8	<p>“In my mind, there’s still opportunities. You don’t dig a hole starting at the bottom. You got to start and go down. And in a lot of places, you’re not going to start at the top, you got to get your way worked up, and it takes some time. It’s like a lot of us have gone through, it takes sacrifice. It takes hard work.”</p> <p>“it was a pretty good buyout and pretty good money if they would’ve taken their money and bought a piece of land with it. It would’ve helped, but a lot of people didn’t do that. A lot of people bought four-wheel drive trucks. And that’s just young people, that’s where they are.”</p> <p>Another thing is your personal lifestyle, how you want that to be. That has changed over the years. My family, we maybe went to Lexington once or twice a year. We would always shop locally and so forth. We hardly ever went to the movies, we hardly ever went out to eat. Everything was fixed there at home. Today’s society is different, and it takes more household income...”</p> <p>“If you don’t have the money yourself, you have to sacrifice an awful lot. You can’t just go out there and buy whatever you see or what you would like to have and some people lost out because they had too much credit. They owed too much on every piece on their land and on their livestock and on their machinery, well making those payment just got too big for them. But you just have to sacrifice until you get a little ahead and I think, I’ve thought about that, I have no good answer for it except if you stay with something and do a pretty good job, eventually something real good will happen and you’ll have some good years in there.”</p>

### *B) Community and Cultural Change*

One of the most common observations made regarding community change was that there are fewer full-time farmers and, in total, fewer farmers altogether, especially young farmers. As previously mentioned, one of the primary economic coping strategies for farmers, or their spouses, is to pursue off-farm work either for income or health insurance (Institute of Medicine, 2006). More than half of the interviewed farmers had a source of off-farm income in their household (14). In addition, many of the other participants, though full-time off the farm as policy makers, extension agents, or with a position in an NGO, also had some farm income (8). As one farmer's spouse described:

I worked so he could farm

and another farmer posited:

I think we are going to become more and more part-time farmers. If you want to become a farmer, you are going to be a part-time farmer unless you have something that is super.

Extension agents also explained that the majority of farmers they work with are part-time:

A lot of our farmers are part-time. So, they are either working off the farm full-time, which is a lot of the cases, or maybe they are part-time off the farm and part-time on the farm. The biggest challenges: 1. Time, everybody is busy. They want to do it full-time, but they can't, it's too risky financially.

Though this strategy does enable farmers to alleviate economic stress, it may affect psychological well-being. Though part-time farming is common, its undesirable because oftentimes part-time work requires a long commute. As one farmer/policy-maker from Western Kentucky described:

When I leave my county - I live two hours west of here [Frankfort]. I leave my county at 4:30 in the morning, the whole county leaves with me. Going to E-town [Elizabethtown] to work, going to Louisville to work, going to Bowling Green to work. And I hate that. I hate that because it'd sure be nice if I could make a living without having to burn up the roads every day like that.

Interestingly, an analysis of trends conducted by Shelton (2018) on the change in the number of farmers since 1987 reveals that in the Western Coal and Jackson Purchase regions of the state there has actually been an increase in the number of full-time farmers but a slight decline in other parts of the state. Part-time farmers that work less than 200 days off the farm have also increased (Shelton, 2018). This might indicate the existence of the described phenomenon in interviews- that more farmers are having to find some off-farm work in order to supplement their income or to gain health insurance. Overall, the change in the number of farmers in each of these categories is, at an aggregate level, arguably not drastic. However, in small communities, the loss of 50 or 100 full-time farmers may feel substantial if one personally knows some of those farmers and/or it may be that there is a greater loss of full-time farm families, where neither spouse works off the farm, as this data does not capture the number of full-time farmers that have spouses that work off the farm.

Additionally, when farming only part-time, one is not able to do what one likes to do from a vocational perspective and may be pursuing behaviors that allow them to cope with the current economic situation but are not fundamentally aligned with that which they value. Many farmers do not enjoy off-farm work as much as on-farm work due to the fact that the work, itself, is different and they self-identify as farmers. One extension agent at the University of Kentucky conducted focus groups in the 80s and early 90s with tobacco farmers in order to better understand why suicide rates of farmers ages 65-74 were comparatively higher than non-farmers of the same age. She described:

What it was was their identity- they were farmers. Even though a significant number of them had had off-farm jobs. And when they could no longer farm, they felt like they had no reason to

live....I mean it was very consistent...The power of that social identity of ‘farmer’ overrode every other way in which they thought of themselves.

There was agreement among many interviewees that farmers are often not primarily or solely motivated to farm for the income, but because it is their preferred way of life and, though not always articulated clearly, being a farmer is a substantive portion of their identity, of who they are; a farm livelihood is valued not only instrumentally/economically, but in terms of identity and lifestyle preferences (Table 3). Related to lifestyle, three narratives illustrating different valued aspects of being a farmer emerged from the interviews: independence (i.e. being one’s own boss), appreciation for the work itself, and appreciation of the land/place. As well as expressing these values, three individuals also suggested that a declining prevalence of farmers in the community has contributed to an increased number of people who aren’t considerate of farming or appreciative of the farm lifestyle.

Table 3: Non-economic motivations that farmers gave to describe why they farm or what they value about farming.

Farmer Motivations for Farming		Illustrative Quotes
Identity		<p>“I don’t know why [I farm]... I guess I’ve always done it but I can tell you right now I wouldn’t be happy working at a factory. It’s just, you’ve just about got to be raised up in it and you want to keep doing it. I don’t know why...”</p> <p>“I’ve got a friend of mine that worked for me out at the stockyards, young guy, but he really thinks like an older person, he was working with me at the stockyards and he said he had to get somewhere where he was working fulltime and of course the stock yard business is part-time. We sell two days a week and it takes a day to get ready and a day to have the sale. But he just decided that he wanted to get something full time where he could have insurance and he married – needed insurance thinkin about a family – so he went to a factory to work and he had perfect attendance. He worked three days. And he said when he’d go in that door and they’d shut the door behind him, he wouldn’t see daylight all day long. And he worked 3 days and quit. He’s a farmer at heart – has to be outside doing the cattle, row crops, putting up they hay or whatever. And not everybody’s cut out for every job and it’s a good thing we’re not. Because if we were we’d all want the same woman, we’d all want the same thing. That would be a train crash. Everybody wants different things.”</p> <p>“Well you wonder why you’re doing it... its not that you’re going nowhere but you just keep on doing it I don’t know if there’s an explanation or not. It’s something to do with it being in your blood, I reckon.”</p>
Lifestyle Preference	In general	<p>“I don’t like the word “lifestyle” I think its more serious than that, its not...it’s a life. Its not a style.”</p> <p>“There’s no place better in the world to raise a bunch of children than on a farm. There’s no better place. And keeping them out of town and keep them from sitting around these pools and these theaters and things and keep them out of trouble. If you keep them out working, there’s just no better place for them. I really believe that.”</p> <p>“I enjoy living on a place where nobody tells me what kind of building I have to build, or my neighbors don’t get mad if I don’t cut my lawn, and I enjoy the out of doors more than I enjoy concrete and the lights. Knowing that I think people who don’t have that opportunity never know what they’re missing.”</p>

	<p>Being independent</p>	<p>“I don’t, keep full-time help on the farm. The only thing that, with my cattle, my hay, and with my tobacco, I can pretty much take care of it myself for the most part with a few jobs when it requires help but I don’t have anyone working for me everyday and that’s by choice. I prefer it that way [ you prefer to work by yourself?] yea.”</p> <p>“If all the farmers could stick together, they could bring the country to their knees. Because the food has got to be there and the people have to have it. But they will not stick together, they are an independent group. They’ve always been alone and worked the land and nobody tells them what to do.”</p> <p>“I’ve never had a job in my life. I was in the army and that was the only job I ever had. I just wouldn’t like working for nobody. Because I’ve watched it all my life and I’ve told my two children this. You’re not going to make much working for someone else because they aren’t going to let you make much. If you’ve got a job with them and you’re making great big money, they’re going to get you someday.”</p> <p>“if a landowner came to me or if I talk to them, I would prefer to be in charge. I would prefer to say, “Let me pay you a certain amount and don’t bother me anymore.” Not in those terms, necessarily, or those words, but I want to... If they want to be involved with the risk, that’s fine, too. But I want to be able to call the shots, so to speak,”</p> <p>“This gap requirement and good agricultural practices. We provide that training every year and the farmers, they don’t like to be told what to do. Again, they like their independence and their freedom but the society today requires that accountability. And the companies require that to produce their liability because they are trying to push it back.”</p> <p>“you know some people, like, it’s their way of life! And their vocation you know and that’s what they want to do and they make it work. And it might not make a lot of money or they could have made more money somewhere else you know on a utility level, but they are more satisfied because they may not make as much money but they get more satisfaction because they are able to farm...to be their own boss”</p>
	<p>Appreciation of the actual work</p>	<p>“Yeah, and I’ve had people all my life who I went to school with, the hardest working ones at school, made straight A’s. They went to work in somebody’s factory, pretty good big jobs. They hated every day. They told me man I hate to get up out of bed every morning. I know what I’m going to do that day already. I can’t imagine hating to get up in the morning. I can’t wait to get out of here in the morning. I can’t wait till 4 o’clock. Sometimes I leave at 5 and hit the road. But I can’t wait to get out and see how many cows I’ve got that morning or if something went wrong or if I’m going to have to put them to work in the barn or if its pouring rain. See I never know. I have to see the weather out there to know what I’m gonna do that day. So, I’m not bored to death when I get there. It’s not like going to work in a factory or something like that.”</p> <p>“And we would take them, everyone, and put them in the tray and then grow them outside on beds. Same method, and we did that for years. It worked good for us because we’re not a large grower. I don’t want to be a large grower. I like being able to touch every plant. I like being able to watch it and manage it closely. And I enjoy the work, even though it’s very difficult.”</p> <p>“I miss the stripping and Brian will tell you that’s true because I loved the stripping and I loved the setting. The one thing I do not miss is the tobacco out in the fields with the snakes under it.”</p> <p>“He [my son] asked me the other day, you ever thought about retiring? I said, nah, you gonna carry me across that cemetery lawn, that’s when I’ll retire. As long as I keep my health. I love what I do. Every day is different. When I get up in the morning I don’t know what I’m going to meet at work til I get there. Who or what.”</p>
	<p>Appreciation for the land</p>	<p>“I think I worked hard through the years. Maybe too hard. I don’t know exactly how to put it. I liked the land, I loved the land. In fact, I probably let the land rule me more than...the other way around.”</p> <p>“We’ve been here all these years, kids were raised here, there’s some sentimental value to it. And the farm I’ve got down at the river with my dad, its been in the family over 100 years..um, there would be sentimental issues with selling any of em. But, reality may be that at some point in time I may need to. You just don’t know.”</p> <p>“I’ve got a place on my farm. It’s one of my favorite places to go, and I can sit there on that place, and I can look into Menifée County, Rowan County, Fleming County. The only limit on how far you can see is how good your eyes are. And it just kind of fascinates me to go up there and just sit and look at it. I do, especially in the fall when the leaves are turning.”</p>



Another quality that is valued in those that pursue farming and, if lost, may feel like a cultural loss, is “hard work.” “Hard work” was a prominent theme through many interviews (16) interviews revealed deeper insight into how farmers value “work.” As mentioned in the previous section on economic outcomes, interviewees expressed that through “hard work” one might still be successful at farming. For farmers, the “hard work” of farming is often described in terms of the physical labor aspect of the job. Respondents (8) spoke about the “hard work” of farming as something that builds character and work ethic in youth that grow up on a farm:

...I don't think you can put a value on putting kids on a farm and giving them chores. It teaches them to work. They may not like it so much having to do it, but when they get older they will really appreciate it. I know my dad and I came home on a school bus and I had chores to do and I played high school basketball and lots of times after the basketball game I would come home and feed his cows for him while he was stripping tobacco and that was a big hit. I didn't really look forward to doing it so much, but as I grew older, I'm very thankful that I did do it.

Another issue right now with places is child labor or the concept of child labor and abuse of child labor in tobacco. It doesn't exist. As far as I know, it never has on any sort of scale other than a very, very isolated incident that there was a report in North Carolina a few years ago about children being abused and forced to work in the tobacco fields. This blew up and all these labor organizations and politicians went crazy, and this is where all this GAP stuff about tobacco comes from, to make sure you aren't working children. I thought, we can't even get adults to work, let alone children. Somebody said if you paid us enough money we wouldn't have to work our children and it wouldn't be a problem. As growers, we all say we worked the tobacco and think we've done pretty well for ourselves. We are stakeholders, business owners, leaders in the community. Work doesn't hurt you. They take it and run with it, and you see on the news that they are support a new bill, how people abuse children in the tobacco field. That is a complete lie.

In conjunction with that sentiment, some (7) referred to “hard work” as something that is disappearing in today's society either in general terms (4) or specifically in reference to the younger generation of today (3):

I think there certainly are cultural changes that have existed here for years and years and years, for decades. When I went to school, half the kids I went to school with spent their summers working in tobacco to make enough money to go to school on the next semester. That's gone. They all had that in common. It was something they could share with each other when they came back. They all understood how it worked, what that kind of work was, and the impact it had on them as far as their ability to be able to stay in school. That generation is gone. I think along with that; the loss of the farm is... There's some overall loss in this generation's ability to appreciate the work that they can do themselves and get the rewards from that work.

Yeah people are not farming there. [They] Sell a lot or two out and make more money, I guess. A generation of farmers, that kind of farmers are dying out. The young people don't want to work that hard to make so little money and I don't blame them. It's too much.

There's a guy here, his name is [...]. He's a navy seal guy- lieutenant commander. Retired, and raises mushrooms. And he's damn good at what he does. He had a college kid from [...] I guess it was and hired him over the summer. And uh... the kid helped around just doing stuff. [He] needed a ditch dug for drainage so he could get water away from his development. Hands this kid a shovel and says dig me a ditch out there about 30 foot. And this kid says I've got a college education, I'm not going to dig a ditch. And uh... you know what [he] told him? Looks like I can do this job myself. I don't need you. And the kid quit.

However, in contrast, one respondent that grew up on a farm but is not farming as a primary occupation said:



Not doing the work that has been defined as work, in that generational time and place, is a really unfair proposition, because it's not possible for us. It's not viable.... And especially as a woman, it's super interesting because my economic possibilities in my hometown are ten-dollar an hour jobs at best. I'm not going to be hired to build pull barns with my cousins and make \$80,000 a year, it's just not what's possible for me.

Regardless of why young people are not farming, another change related to this phenomenon is that for some current farmers there is uncertainty over the future fate of their farmland and its future is something that they think about given that a) the generational transition was something that, in the past, helped farmers and b) they don't want neighboring farms to be divided and developed. As one farmer stated:

The land that I've got now, if things were like they were back in the 80s, I could rent the property to someone else and do whatever, but the opportunity is not there. You know, if I wanted to stop growing tobacco it's not like there is some young person that I could get to come work on some kind of partnership arrangement. There is just no one that I know of that is interested in doing that.

When speaking of other observed changes in their communities, nine individuals mentioned the rising drug problem (almost one-quarter of respondents) as something that has changed in their community. The rise of drug abuse is a threat to communities. One farmer suggested that drugs have replaced alcohol, another said that drug abuse makes it hard to find trustworthy labor, and an extension agent related drug use to a lack of job opportunities (saying that "idle hands" may tend towards drug abuse). Another farmer explained that the newspapers are full of stories on drug abuse problems and, though one used to worry about the influence the city would have on one's grandchildren, now the "safety" of the country and small communities is also threatened. A second major change noted by many is the closure of country farm stores. These country stores were places for farmers to socialize and to buy goods on credit. Some claimed that the tobacco buy-out was specifically responsible for the fact that these stores were no longer able to survive whereas others attributed to the fact that corporate chain stores have moved in and out-competed them. Why these stores have closed, at this point, may be less important than the fact that the loss of these centers for socialization is noticed and missed within the farm community.

Overall, cultural shifts and changes in rural areas were noticed by all respondents; changing land ownership, fewer full-time farmers or farmers in general, drug issues, loss of community stores, and a dearth of understanding regarding the trajectories and values of young people and society were of concern. However, fault attributions for cultural change were not clearly articulated. There seems to be some kind of fault attribution between 1) fewer people farming and a resulting cultural change and 2) lack of youth exposure to farm work and cultural change (i.e. fewer hard workers). Yet, at the same time, there is also acknowledgement that even the youth that grew up on a farm are not choosing to pursue farm livelihoods because the opportunity is not there. In general, changes were not always causally associated with the tobacco transition (it wasn't directly blamed) but were talked about as though they had taken place within the time-frame of the tobacco transition- over the last twenty to years – or, alternatively, within the respondent's lifetime. In summary, a former farmer and present farm advocate explained the connection between economic and cultural change:

...so you know there was the definite income side of things but I think, I also think there was this cultural stuff, right, people's identities were tied to you know farming and tobacco farming and that way of making a living. Without it, the community connections would, and they did, just started unraveling because you just weren't brought together like you were and I saw, you know, with coal the same thing, the culture association and this other piece that, nevermind coal, and I know plenty people who have, and I think there is something, there are bonds created when people do really hard, often dangerous work side by side, right. So that creates a bond and those bonds are pretty, pretty strong. And they translate to your personal identity, community

identity and all this stuff. Right, golly when those bonds are broken or even the prospect of losing those bonds and the culture, you just feel at the mercy of the winds.

#### **IV. Discussion**

Among the many challenges of studying transitional outcomes retrospectively, is that the urban-rural connectivity that initially drove the transition has continued to affect the communities. Thus, to pinpoint the transition as the singular lever of change is not realistic. However, two themes warrant further investigation: 1) that slow changing variables such as farmer identity and cultural values may partially buffer or initially conceal the full shock of the transition and 2) the connections between economy and culture as dynamic and central for understanding economic transitions.

Huntington et al. (2018) explored why some communities under climatic and economic strain in Arctic Alaska were not responsive to stressors and, instead, maintain some functions of the SES by continuing to live there. They described that attachment (to place or community) motivates individuals to stay and that adaptive livelihood strategies and policy buffers enable them to stay. Under some conditions, such as short-term stress, this may have positive outcomes. Conversely, alternatives may not be sufficient if stressors become worse and if policy buffers are not sustained over the long-term. In Kentucky, farmers stayed in rural communities despite loss of income from tobacco (and many explained that they were motivated to farm for non-economic reasons), farm households shifted livelihood strategies to include other farm enterprises and off-farm work, and policy-granted financial support acted as a buffer.

Part-time farming, though sometimes discussed as a transitional state either into or out of farming, is, for more and more individuals, a permanent state (Harlow, 2017). Though the tobacco transition targeted only one crop, neoliberal trade policies are a long-term change and were impacting small farmers in Kentucky prior to the tobacco transition. Across the U.S., the number of farmers has been steadily decreasing over the last century; between 1945 and 1980 the farm population decreased by 76% and the proportion of the rural population that farmed dropped from approximately 50% to less than 10% (Dimitri et al., 2005). Tobacco was not the only pillar of Kentucky's rural farm economy, but it was among the last to go. Hemp production and processing, was a large part of the rural economy until the 1940s<sup>4</sup> and market and subsistence dairy farming has steadily declined since the 1980s (Nutt, 2000). By situating transitions into a broader, historical context, we might begin to understand how close to a threshold the current system is and thus what might be required to buffer the system from a tipping point.

In the Kentucky case, with knowledge that Kentucky agriculture had become highly dependent upon tobacco, supportive policy buffers were established. However, the federal buy-out money was given either in a lump sum or over a temporary, ten-year period and, though the state funded cost-share and loan programs are ongoing, some interview respondents mentioned that they suspected that some farmers have become dependent on them. Thus, through shifting livelihood strategies and the existence of policy buffers, rural farm communities do persist in some form, but it may not be sustainable and certain SES dynamics are changed.

In particular, respondents reported that the social dynamics of their communities have changed: there are fewer country stores, fewer markets at which members of rural communities gather, and an increasing number of people that leave town each day for a long commute to work. Though not explicitly related, school consolidation was also described as a community change. Commuting, both in terms of the time allocated for the commute and the overall stress of commuting, has an impact on family and social dynamics (Mårtensson, 2015; Markey et al., 2015) as does school consolidation as schools are local, community assets that impact rural life (Sell et al., 1996; Green, 2013). In addition,

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<sup>4</sup> <http://www.kyagr.com/marketing/industrial-hemp.html>

drug problems<sup>5</sup> and the sale and development of farmland are increasingly common. Between 2007 and 2012, Kentucky lost more farmland than any other state (USDA, 2012a)<sup>6</sup>.

Though the connections are not yet evidentially or causally linked, there is increasing support for the strength of the connections between culture and economy. In the context of the economic transition, one might posit that farmers continued to farm in part due to identity and cultural values of hard work, independence, and sacrifice and thus the persistence of shared culture and values maintain the farm economy. Yet, simultaneously, economic shifts shape culture as increasing numbers of people farm part-time, the daily dynamics of the community change, social networks are disrupted, and fewer individuals in the next generation choose to farm because there is little economic opportunity to draw them in. If, as described by respondents in this research, the most economically viable farming option for those that want to farm full-time is to have a larger operation, fewer individuals in the next generation will have access to sufficient land and/or other forms of capital and those with less will be less able to adapt to changed economic dynamics (Hoque et al., 2018).

The generational transition in farming families is complex. Not only may youth hesitate to take on the family farm if chances of profitability are decreased, but they may be reticent to farm if the farming social network in the community is weakened. As described in Schulman & Armstrong (1989) social support and networks are especially important for alleviating stress in young farmers perhaps, because it makes them feel supported in their challenging, independent endeavor. Without these networks, young farmers may be less inclined to persist. In addition, if, as described in Jones et al. (2016), values are shaped over the course of a lifetime, then values that are formed through connection with a farming vocation may become less dominant in a rural community as more people acquire part-time or full-time jobs off the farm. Youth that are not yet farming may choose a different vocational pathway than that of prior generations because they are exposed to different kinds of lifestyles and align with value sets and priorities different than those of the former generation. Some participants mentioned that the rural culture is changing such that there are amenities and services that farm households desire to obtain that they did not formerly want or need to afford (i.e. internet, phones, sports leagues for children, etc). Perhaps new, younger generations of farmers do not want to sacrifice as much as the generations of their parents and grandparents and perceive economic stress in a qualitatively different manner. Or, alternatively, even though a low amenity lifestyle may be desired, one of the participants described the following:

My husband paid off his farm because he was willing to live within limits and that's the thing and that's tough. I see, I see the young people can do it around here until they have children and then their middle-class upbringing kicks in and then, I'm not faulting anybody, please never think I am, and then you begin to think you need more. You don't trust the farm culture to be a good one to grow up in. You begin to think you need more or people begin to think they need more. So I have certainly seen in the lives of some people that it's possible to make this shift, but right now we have hardly any culture to support it.

Though complex, any effort to better understand the connectivity economic and cultural change will perhaps improve the way in which transitional policy can buffer or attempt to steer change in the SES. Particular attention should be given not just so that fast, short-term changes are supported, but also consideration given to the long-term trajectory in which the transition is situated both in terms of what has come before and that which will follow, such as the generational transition in the community. As also described in Huntington et al. (2018), individuals, though motivated by values of attachment to place and community, may still be suffering, and the pursuit of adaptive strategies and alternatives can conceal the instability of an SES.

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<sup>5</sup> <https://odcp.ky.gov/Pages/Overdose-Fatality-Report.aspx>

<sup>6</sup> <http://www.kentucky.com/news/business/article44495472.html>

As respondents expressed in this research, some farmers are discontent with current circumstances and opportunities. This may be indicative of suffering. Some individuals blamed structural circumstances imposed upon them by wider system dynamics such as the market and the government. This is not inconsequential. Davidson (2010) discusses that in a resilient SES the different spatial scales of the system (i.e. local, state, national, global) should all contain sufficient buffering capacity so as to prevent revolt, a phenomenon in which a change at one scale of the system spreads to others. However, as is recently debated among those studying the drivers of recent political shifts (i.e. Brexit, President Trump), an achieved critical mass of rural discontent at numerous local levels may be partially responsible for shifting global politics (Ulrich-Schad and Duncan, 2018). Other respondents directed blame internally, at farmers themselves, suggesting that many perceive that each individual is responsible for creating their own success. If responsibility rests on oneself, blame is internalized and, when under stress, affective responses such as worthlessness may arise (Heppner et al., 1991; Van Hook, 1990; Skinner et al., 2003). Thereby, an issue becomes a single person's responsibility rather than a collective problem and this internal division is advantageous to those whom the current structure serves (Freire, 1996). As, consequentially, collectively pursued community action may be rare and thus the system structures are maintained from both inside and outside the system.

## V. Conclusion

System complexity, the dimensions of scale, time, rate of system drivers (i.e. slow and fast variables) and the interactions of these dimensions, makes it exceedingly difficult, and likely impossible, to steer transitions (Shove and Walker, 2007). This does not mean that policy and community initiatives intended to assist and support individuals in coping with economic transitions should not be pursued. However, given our growing awareness of the importance of human values and the connectivity between culture and economy, policy initiatives and the governance processes that inform them should be undertaken such that they are sensitive to these forces and committed to a reflexive governance process in which efforts are re-evaluated and adjusted through time.

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## About the Author

**Rebecca Shelton** is a PhD Student at Arizona State University (2016-present). She has an MS degree in integrated plant and soil sciences from the University of Kentucky and a BS degree in earth and environmental sciences from Furman University. She is currently a research assistant for two projects that require rigorous engagement with the topics of transformative pathway and transformative space creation, human agency in socio-ecological systems, and social learning. Her personal research is focused on understanding the cognitive and ecological barriers that stall or bar economic transitions in rural, primary sector economies such as agriculture and mining.

**The Emancipatory Rural Politics Initiative (ERPI)** is a new initiative focused on understanding the contemporary moment and building alternatives. New exclusionary politics are generating deepening inequalities, jobless 'growth', climate chaos, and social division. The ERPI is focused on the social and political processes in rural spaces that are generating alternatives to regressive, authoritarian politics. We aim to provoke debate and action among scholars, activists, practitioners and policymakers from across the world that are concerned about the current situation, and hopeful about alternatives.

For more information see: <http://www.iss.nl/erpi>  
or email: [emancipatoryruralpolitics@gmail.com](mailto:emancipatoryruralpolitics@gmail.com)