TOOLKIT FOR TRANSITIONS TO AGROECOLOGICAL FARMING

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A Platform from which farmers, beginning farmers, and aspiring farmers can prepare to launch small-scale, agroecological farms.

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What this toolkit will provide

This toolkit aims to provide a platform from which farmers, beginning farmers, and aspiring farmers can prepare to launch small-scale, agroecological operations. It begins with an introduction to agroecology: as a method of farming and as a global movement. Outlined below are reasons to make the switch, as well as resources for beginning farmers in the section, "Tips for new farmers" and for current farmers in, "Tips for transitioning farmers." Included throughout the toolkit is the story of a farmer named Kip Kelley, who has been in the process of transitioning portions of his father in law's land from commodity crops to diversified produce and pasture-raised animals since 2011. This information is included to provide context and insight for a more comprehensive guide to agroecological farming transitions. The goal of consolidating these insights and resources into a single toolkit is to support a movement in favor of just and sustainable food systems.

What is agroecology?

Agroecology is a method of farming that combines concepts in agriculture and ecology to produce resilient and sustainable farming systems. It relies upon the sharing of knowledge between farmers, an understanding of agroecological technologies, access to land, support of local markets, and government policy.[1] Design and practices are integrated to foster natural processes that increase soil biological activity and whole farm productivity. Planting is done in rotation with cover crops, incorporates plants that attract pollinators and pest predators, and benefits from integration with projects in animal husbandry. The system is biodiverse and resources like water and minerals are replenished with use.[2]

In addition to being a comprehensive method for producing food, agroecology is also one aspect of a rural social movement for food sovereignty that originated with peasant and indigenous agriculture in Latin America.[3] Agroecological movements began in the 1980's and grew throughout the 1990's with organized efforts from groups such as La Via Campesina, the Landless Workers Movement, and Campesino a Campesino. Incorporating elements of traditional knowledge and modern agricultural science, these movements built networks of farmers devoted to changing the social, political, cultural, and economic contexts that currently foster the growth of industrial agriculture and corporate control of food production.[4]

Today the majority of industrially produced grain crops are used for biofuels and animal consumption in feedlots. Globally, only two-thirds of all food produced for human consumption is actually consumed. Said differently, every year roughly 1.3 billion tons of food, enough to feed the entire continent of Africa, goes to waste. Food access and distribution has been compromised by international policies that create import-export dependencies and undermine the ability of entire nations to be food secure. Agroecology, as a method of farming and a social movement, offers an alternative to this global reality.[5]

Why make the switch?

"In the US alone, 324 million kg of 600 different types of pesticides are used annually with indirect environmental and social costs reaching about $8 billion each year."[6]

Agroecology integrates ecological processes within an agricultural system so that few inputs from outside the farm are needed to achieve productivity. This results in greater autonomy and functional diversity, both economically and biologically. The farm does not rely on chemical fertilizers or pesticides,[7] but instead uses manure, compost, and cover crops to foster healthy physical, chemical, and biological

properties of the soil. Healthy soil means a better harvest, both in quality and quantity of crops. With increased biodiversity in the soil and on the farm, there is less vulnerability to pest outbreaks, superbugs, and extreme weather events.[8]

An additional benefit is that compared to conventional farming, there are fewer fixed investments. Further, agroecology as an alternative does not necessitate reliance on government subsidies or contracts with agribusinesses. A wider range of product diversity on the farm results in the possibility of more market options, and greater economic viability, resilience, and flexibility. Production can occur throughout the year so that income is earned more continually. Today many people desire chemical-free foods to nurture their bodies, their communities, and protect the environment at large. This trend in consumer preference may increase demand for products cultivated in an agroecological manner. Producing a variety of food crops also means nutritious food for you and your family, leading to a lower grocery bill.

Kip's Transition to agroecological farming with Full Cellar Farm

Kip Kelley is the founder and owner of Full Cellar Farm in Jefferson, Maryland, about one hour's drive outside of Washington, D.C. He is a second-generation farmer who grew up helping his mother raise sheep for wool and cows for dairy. Through working with his mother and working as a farm hand in the neighborhood, Kip was introduced to a farming lifestyle that made him feel proud and unique. Kip always knew he wanted to farm but he wasn't sure what kind of farming he would do. He didn't imagine he would farm as a full time career, and decided to pursue a bachelor's degree in education to become a teacher. This would allow him to farm in the summer. However, after pursuing teaching for a few years, he realized he wanted to be more involved with farming.

Since 2011, Kip has been transitioning 30 acres of his father-in-law's land from commodity crops to a diversified, sustainable system. Together with his wife Sarah and three farm hands, Jimmy, James and Joe, Kip grows 20 acres of vegetables, 4 acres of hay, and 6 acres of chickens, turkey, and pigs in an integrated fashion. 85% of Full Cellar Farm's sales are made at farmers' markets and 15% are made selling wholesale. Full Cellar Farm makes a point to sell at farmers' markets that accept SNAP (food stamps) and at "Fresh Stops" that sell produce shares on a sliding scale. The goal in targeting these markets is to enable all community members to afford to eat healthy food.

Kip and his wife strive to keep their soil, water resources, crops and animals healthy. The farm is not certified organic, but most of the practices comply with the National Certified Organic program and follow agroecological principles. No synthetic or chemical fertilizers, pesticides, or herbicides are used. Instead, cover crops are used to prevent erosion and for nitrogen fixation, crop rotation keeps soil productivity high, and compost or chicken manure from the flocks kept on the farm fertilize fields. Drip irrigation has been installed throughout the fields and plants that attract beneficial insects compliment rows of vegetable crops. Kip is dedicated to a style of farming which cares for both the land and the larger community.

When Kip was asked why he wanted to start an agroecological farm, he responded, "I want to grow things I can eat too...it's a major benefit to be able to grow my own food…and a healthier way to engage with the community." In addition to the desire to provide his family and community with healthy food, he didn't like the idea of growing commodity crops in exchange for the government subsidies and debt they represent. He also knew that growing only one or two crops burns out the soil, whereas he wants to care for his soil in a way that will make it viable for generations to come. After he began his farm, he also realized that growing commodity crops is designed for a large expanse of flat land. In contrast, his land is hilly and undersized for the amount of cash crop he would need to sell in order to be able to support a family. In many instances where the land available to farm is small in acreage, hilly, or otherwise considered "marginal land," raising a diversified set of vegetables and animals is likely to be more successful both in-field and more profitable than attempting to make commodity crops successful on a small parcel of land.

Kip stated that an agroecological style of farming has given him business security, because he's able to sell to a wide variety of people rather than only one or two grain elevators. He also feels the farm is "over marketed" for vegetables and eggs, and can't fully meet the demand for these products from a growing base of customers. Kip appreciates that he has been able to establish friendships with his customers and to provide people with jobs. With more laborers on the farm, the land is better taken care of and the farm is really "a place rather than just a property." Another big benefit for him is that he feels good about his farm. He doesn't have to go to bed with a heavy conscience and he fully believes that this is a peaceful way to raise a family. He is excited for his first child (born November 2013) to grow up knowing about farming and where food comes from.

Tips for new farmers

Beginning an agroecological farm requires land, knowledge, planning, and design. Locating seed, cover crops, animals, compost, and farm tools for purchase is the first step. In addition, one must know how much labor will be needed and how to market and sell products. Many resources are available to assist beginning farmers in order to ensure they are successful ecologically, economically, and socially. Some of these resources are described and accompanied with links in the next section. First this section will help you prepare for starting your farm. Write down ideas for the following questions to start building a vision for your farm.

- How many acres will be planted during the first season?
- Would you like to have room for it to grow larger in the future?
- Do you prefer to own or lease the land you work?
- If you choose to lease land, is there a land link program in your area?
- Would you like to be the sole owner, or a co-owner?
- If you will need farm hands, how many employees would you ideally have?
- What crops and/or animals would you like to have?

- What companion plants would integrate well with the crops you'd like to have? [Example: carrots grow well with onion & tomato. In fact, the smell of the onion confuses carrot flies and keeps them away from your carrot crop when planted close to one another.]
- What federal, state, and local regulations will the farm have to comply with in field, in the packing shed, and for markets? [Keep in mind that regulations can vary from state to state, especially regarding meat, dairy, and eggs]
- Where or to whom will you sell? [Farmers markets, CSA, Fresh Stops, restaurants]
- Are there grants you may be eligible for? [See section on grants]
- Where will the farm be located?

Consider all factors. Would you like to stay in the area you live now (especially if you already own land), or is moving acceptable? If moving is an option, determine how far you and your family would be willing to move, what type of social atmosphere you're looking for, and how climate, market opportunities, land prices, and costs of living in an area will impact your farm planning and lifestyle. If you think your farm would be most successful selling at farmers' markets, remember that an area within proximity of a town or city will increase opportunities to reach customers.

Hands-on learning and the development of a farmer-knowledge network is an integral part of agroecology. When you find a location that appeals to you, look for a farmer or agricultural organization to apprentice with through several seasons. Even informally, this will provide you with valuable work experience, familiarize you with the area, and provide lessons that would be harder learned on your own.

After you gain experience and decide where you want to farm, the next step is to find land and resources, and to begin mapping your farm. If you have never mapped a farm before, farmer's forums and websites like BeginningFarmers.org and YoungFarmers.org offer tutorials on how to do so. Seek out information and skills-building workshops for classes on business and financial management from family, friends, fellow farmers, sustainable farming organizations, community colleges, or universities. Most farmers seem to have much more difficulty with the business aspect of running a farm than with in-field practices. Websites with tutorials on business planning and management include BeginningFarmers.org and Holistic Management International.

Resources for beginning farmers include:

- Beginning Farmers

http://www.beginningfarmers.org
Provides information on grants, finding farmland, jobs and internships in sustainable farming, beginning farmer training programs, farm mapping, farm business planning, crop/animal production resources, permaculture, urban farming, marketing, farmers' market directories, farming magazines and online articles, and farm policy/agricultural politics. Includes online tutorials located on host site as well as hyperlinks to other websites with information specific to selected topics.

- Beginning Farmer & Rancher Development Program (BFRDP)

http://www.usda.gov/wps/portal/usda/usdahome?contentid=kyf_grants_nifa3_content.html
Provides grants to organizations that train, educate, and provide outreach and technical assistance to new and beginning farmers on production, marketing, business management, legal strategies and other topics critical to running a successful operation. State, Tribal, local, or regionally-based networks or partnerships of public and private entities are eligible to apply for up to $250,000 per year for 3 years, with a 25% match in resources. Priority is given to partnerships and collaborations led by or including community-based organizations and/or school-based agricultural educational organizations

with expertise in new agricultural producer training. Total available funding for BFRDP was increased from $75 million 2008 level to $100 million in the 2014 Farm Bill.

- NCAT, National Center for Appropriate Technology: ATTRA - National Sustainable Agriculture Information Service

https://attra.ncat.org/attra-pub/local_food/startup.html#nonattra
This resource is beneficial for beginning farmers and will continue to benefit your farm throughout your lifetime. They offer a link and email newsletter for Sustainable Farming Internships and Apprenticeships, as well as Self-Instruction Courses for farm business planning and risk management. The resources they provide for new farmers goes beyond their own website and into USDA programs, what they call "Outstanding Training Programs," Farm Incubator Programs, and special programs for Women, Immigrants, Veterans, and those needing to find land.

- New Entry Sustainable Farming Project, Tufts University

http://nesfp.org/
A Massachusetts based program that supports new farmers locally, regionally, and nationally. Offers farmer training workshops, courses, and incubator-farm programs, and provides links to other incubator farms to help beginning farmers learn the skills necessary to sustain small-scale agricultural operations. Their focus is on farmer training, and courses offered include on the ground training with their incubator farm, farm business planning, and specialty workshops for advanced skills like livestock management. They even offer help to their incubator farm students once they are ready to transition to their own land. Online there is a free downloadable pdf called "How to Begin Your Small Farm Dream."

- National Young Farmers Coalition

http://www.youngfarmers.org/
Easy-to-use website which provides these resources: farmers' discussion forum, NYFC events in your area, information on resources available, details on farm policy, and tools to help farmers contact the correct USDA or Extension office according to what they need and their location. "Resources" includes training opportunities, jobs, land to rent, and where to find credit and capital. The "Farmers' Forum" is an area to connect with other young farmers to discuss farm life, food policy, land access, technical support, opportunities, and business management.

- Transition Incentive Program - access to land

http://www.fsa.usda.gov/FSA/webapp?area=home&subject=copr&topic=tipr
The federal government provides monetary incentives to retired & retiring landowners/farmers to lease or sell their land to beginning, socially disadvantaged, and/or veteran farmers, so that the land can remain in production rather than being sold for development.

Tips for transitioning farmers

For many farmers, running a business is much more challenging than the in-field aspects of keeping a farm. Common business challenges include access to land, access to credit, and complying with regulations. Here are some solutions to each of those challenges.

Access to land:

Check in your area if there is an existing "Land Link" program. These programs act as a 'matchmaking service' between landowners who would like their land to be put into production and people with farming experience who need a piece of land to work. Specifics of the agreement are worked out between the farmer and the landowner. Depending on the landowner's preference, the land

may either be sold or leased to the farmer. Some leases are more traditional in that owners only will only accept monetary payment. Other landowners are very happy to accept a portion of their payment in produce, eggs, dairy, and/or meat raised on the land. Check in your state to see if there are producer-specific tax breaks on land if the land is farmed. Buildings on farm property are frequently tax-exempt, but there are other specific tax exemptions that vary by state. When filing your farm's taxes, ask neighboring farms which CPA they trust to file for them. If you choose to file yourself, ruraltax.org is a source for self-education on how to file farm taxes.

Access to credit:

The Farm Service Agency (FSA) assists farmers in obtaining federal loans to begin or improve their operation with lower interest rates than those offered by private loan companies. Look into the "Direct & Guaranteed Farm Ownership program." FSA also partners with nonprofits to provide microloans to small, beginning, veteran, and socially disadvantaged farmers through the FSA Microloan Program. Just this year in the 2014 Farm Bill, the FSA's "Farm Storage Facility Program," which offers low-interest loans to build or upgrade storage facilities, was amended to now allow packing sheds used on diversified farms to be eligible for the loans. Amendment of the program to make packing sheds eligible as storage facilities was made possible in part by advocacy by the National Sustainable Agriculture Coalition and the National Young Farmers Coalition.

Compliance to regulations:

Keeping up to date with, decoding, and complying with the large number of regulations on farm practices that exist at the local, state, and federal level can be confusing and time-consuming. Start by asking your local extension office for information to make sure you are covering all your bases. After that, for more streamlined, to-the-point information on new regulations, read websites such as the sustainableagriculture.net.

Resources for farmers include:

- Certified Naturally Grown (501 c (6))

http://www.naturallygrown.org/

This program uses USDA's National Organic Program standards and establishes a complimentary certification program for small-scale farms focused on local market operations. Annual inspections are carried out through a participatory guarantee system (PGS) model that promotes farmer-to-farmer sharing of knowledge, and strengthens local networks within farming communities. Program requirements and applications are offered online.

- Healthy Farmers, Healthy Profits Project

http://bse.wisc.edu/HFHP/tipsheetpage2.htm

Offer tip sheets for work efficiency methods that improve health, safety, and profits. Tip sheets are specific to vegetable, berry, dairy, and nursery plant production. The project was started in 1994 and is a partnership between the University of Madison-WI, CDC, and the National Institute for Occupational Safety and Health.

- Holistic Management International

http://holisticmanagement.org

http://holisticmanagement.org/interactive-map/

Promotes a "Holistic Management" and "Whole Farm/Ranch Planning System" methodology to foster economic, social, and ecologic sustainability. Provides programs for beginning farmers and ranchers, professional development, open gate on-the-farm trainings, free informational downloads for farm and financial planning, and regional networking resources. Holistic Management training builds ranch and

farm practices that maximize relationships between plants, soil, livestock, people, and water in a comprehensive framework that appreciates biological planning as well as financial planning.

- NCAT, National Center for Appropriate Technology: ATTRA - National Sustainable Agriculture Information Service

https://attra.ncat.org
An informational resource supports farmers interested in sustainability. Their "Master Publication List" is an index of publications offering expert information about a range of subjects relevant for sustainable agriculture. There are a range of topics to find resources for, like energy alternatives, horticulture crops, soil management, and marketing. Depending on what stage of the transition you are in or looking to move towards, this website offers extensive resources to provide you with access to information and networks.

- Rodale Institute

http://rodaleinstitute.org
One of oldest, most respected certified organic research institutions (pre-dates 'certified' organic), longest running research experiment with conventional vs. organic plots. Their research focuses on soil & water quality. They offer a crop conversion calculator, sustainable farming classes in Pennsylvania, and a farmer transition program.

- USDA Community Food Projects (CFP) Competitive Grants Program

http://foodsecurity.org/funding.html
Grants available for projects that help meet the food needs of low-income people, increase the self-reliance of communities in providing for their own food needs, and promote comprehensive responses to local food, farm, and nutrition issues. Only private non-profit organizations are eligible to receive CFP funds directly, but collaborations with public and private, for-profit entities are recommended. Applicants may request up to $300,000 for projects of up to three years' duration.

- USDA "Know Your Farmer, Know Your Food"

http://www.usda.gov/wps/portal/usda/usdahome?navid=KYF_GRANTS
A hub for information on USDA programs to foster local and regional food systems. Acts as a bridge between various departments of the USDA that offer grants, loans, and marketing tools for community-oriented farmers and organizations.

- USDA, National Institute of Food & Ag, Organic Transitions

http://www.nifa.usda.gov
  - Organic Agriculture Research and Extension Initiative (OREI)

    http://www.nifa.usda.gov/fo/fundview.cfm?fonum=2120
  - Organic Transitions (ORG)

    http://www.nifa.usda.gov/fo/fundview.cfm?fonum=2480
  - Sustainable Agriculture Research and Education (SARE)

    http://www.sare.org/
  - Tribal Colleges Extension Services Program

    http://nifa.usda.gov/fo/tribalcollegesextension.cfm

- USDA Environmental Quality Incentives Program (EQIP)

http://www.nrcs.usda.gov/programs/eqip

NRCS offers financial & technical assistance to eligible landowners and agricultural producers to manage natural resources in a sustainable manner. Through these programs, the agency approves contracts to provide financial assistance for planning & implementation of conservation practices that address natural resource concerns or opportunities to help save energy, improve soil, water, plant, air, animal and related resources on agricultural lands.

Region specific resources

- Agriculture & Land Based Training Association (ALBA)

http://www.albafarmers.org/
Contributes to a more just and sustainable food system by providing training and economic opportunity to farmers, and aspiring farmers, on two farms in Monterey County, California. Program lasts for ten - months, and includes five modules to develop the skills necessary to run a small-scale, organic agricultural businesses. The five program areas are: Organic Crop Production and Planning, Marketing, Small Business Management, Record-keeping and Whole-farm Planning, and Organic Field Production

- Future Harvest CASA (A Chesapeake Alliance for Sustainable Agriculture

http://www.futureharvestcasa.org
Offers a yearlong Beginner Farmer Training Program, and provides resources to link farmers and landowners in Delaware, Maryland, Virginia, West Virginia, and Washington DC. Partners with regional nonprofits, farming organizations, and government entities in order to support and sustain socially, environmentally, and economically sound farm communities.

- Sample Grants: Projects funded in recent grant cycles by Sustainable Agriculture Research & Education (SARE)

http://www.sare.org/Grants/Apply-for-a-Grant
Divided into four regions; North Central (Midwest), Northeast, Southern, and Western. Not all regions offer the same opportunities, but overall this program is aimed at researchers, educators, nonprofits, producers, extension services, graduate students, and community organizations. Farmer grant writing support resources are offered within each region.

http://www.northcentralsare.org/Grants/Write-a-Successful-Grant
http://www.nesare.org/Grants/Get-a-Grant/Farmer-Grant
http://www.westernsare.org/Grants/Writing-a-Successful-Grant
http://www.southernsare.org/Grants/Writing-a-Successful-Grant

Additional resources and advocacy organizations

- Community Agroecology Network

http://www.canunite.org
An international organization that performs research, education, and action within Mexico and Central America, in order to confront issues of social, economic, and environmental injustice. By working through partnership with community-based organizations, farmers' cooperatives, nonprofits, and universities, local approaches for food security through agroecology and alternative trade models are developed. An agroecological approach for healthy food and healthy environments is emphasized, as well as youth empowerment for a next generation of farmers.

- Food First, Institute for Food & Development Policy

http://www.foodfirst.org

Carries out research, analysis, advocacy and education with communities and social movements for informed citizen engagement with the institutions and policies that control production, distribution and access to food. They engage in research, education, and projects to promote social movement for food justice and food sovereignty. Issue areas include US Food Justice, Land and Resources, Agroecology, the Green Revolution, Labor in the Food System, Aid, Trade and Development, and Global Movements.

- Groundswell International

http://www.groundswellinternational.org
Working in Africa, Asia, and Latin America with communities and organizations to spread agroecological developments like farmer-to-farmer extension and farmer innovation. The mission is to strengthen rural communities through creation of healthy food and farming systems. Issues they work on include Agroecological Farming, Sustainable Local Food Systems and Livelihoods, Natural Resources Management and Resilience to Climate Change, Community Health and Nutrition, Equity and Women's Empowerment, and Organizational Capacity Strengthening. Partners are located in Burkina Faso, Nepal, Ghana, Ecuador, Guatemala, Haiti, and Honduras.

- La Via Campesina

http://viacampesina.org
Comprising 150 local and national organizations in 70 countries and 200 million farmers, this movement was born in 1993 to support small-scale sustainable farming as a means for social justice and dignity. A well-recognized initiative against neoliberal frameworks promoting transnational companies and corporate driven agriculture that has ruined people and nature.

- National Family Farm Coalition

www.nffc.net
Works to empower family farmers through regional and nation-wide campaigns that focus on credit, trade, and food policy issues. Acts as a national link for twenty-four grassroots organizations in thirty-two states, working to advance a socially just farm and food policy. The overarching goal is to take power from corporations that control agriculture and put it instead in the hands of family farmers.

- National Sustainable Agriculture Coalition

http://sustainableagriculture.net
An alliance of grassroots organizations that works to change federal policy in order to create sustainable food systems, protect rural communities, and conserve natural resources. Follows & breaks down information about the Farm Bill and other farm legislation, produces action reports & areas to sign petitions to protect sustainable farms. Publications include annual reports, Farm Bill information, Conservation, Local and Regional Food Systems, Food Safety, and other agricultural topics as well as climate change. They have played a crucial role in the development of various types of support resources for agroecological farms, including research, education, and market development.

- Rural Coalition

http://www.ruralco.org
An advocacy alliance between farmers, ranchers, indigenous tribes, migrant peoples and other communities that acts as a voice for underrepresented food & farming groups. Seeks a just and sustainable food system that offers fair returns, protects the environment, and nourishes people and culture through food systems nationally and globally.

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