Building Capacity in Whole-Farm Systems and Planning Using the Holistic Management Framework

From 2008 through 2010, twenty-eight agricultural professionals in the Northeast participated in a professional development program for on whole farm planning using the Holistic Management framework. The project was divided into two groups (NH and NY) of 14 participants each. Each group used the same curriculum, materials, and received the same teaching tools; the only major difference was the instructors. The training model consisted of four three-day sessions held over the course of two years. Between each session, the participants received reading homework and assignments; each was required to work with at least two farms to implement the concepts learned during the sessions.

End-of-session evaluations assessed short term learning outcomes, effectiveness of curriculum and education methods, satisfaction levels, and teacher effectiveness. Modifications to sessions were made based on the information collected from the questionnaires.

A robust evaluation was conducted one year after the program concluded to assess learning and action outcomes, as well as general impacts resulting from the program. Electronic surveys and phone interviews were used to collect the data. The survey was designed to learn: 1) The skills gained by agricultural professionals as a direct result of the training, and 2) How many farmers the trainees worked with and what, if any, impact their work had on these farms.

Lengthy phone interviews, conducted later by Dr. Ann Spencer, were designed to understand the following: 1) how the principles of whole farm planning with Holistic Management were internalized and communicated by agricultural professionals, and 2) The agricultural professionals’ view of the *nature* of the impacts on farmers.

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| Of the 28 participants who enrolled in the three year training program, only one dropped out, resulting in a 96 % completion rate. All of the 27 participants who completed the training filled out the electronic survey, providing rich data that allowed for a true assessment of the project. Twenty-four of the twenty-seven training participants (89%) were available for interviews and spoke with Dr. Ann Spencer between January and April 2011. The twenty-minute phone interviews encouraged participants to share anecdotal information to “flesh out” the data they had reported in the electronic survey. Interviews were transcribed, coded, and analyzed by Dr. Spencer.  In the time since the training and the electronic survey, the 27 participants had taught whole farm planning using the Holistic Management framework to 929 farmers through five different educational efforts (See Table 1). The participants reached the most farmers through field days, workshops and general farm visits. While most farmers have had exposure in groups, a significant number received individualized instruction. The 929 farmers that the participants reached are stewards of 8,210 acres of New England farmland.  **Table 1** | | | |
| **Number of farmers who were taught Holistic Management** | | | |
| **Venue** |  | **Total** |  |
| Workshops |  | 262 |  |
| Field Days |  | 310 |  |
| Conference Presentations |  | 114 |  |
| General farm visits |  | 177 |  |
| Intensive consultations with farmers |  | 66 |  |

**Total Farmers 929**

**Assessing Knowledge, Attitudes, Skills, and Awareness Outcomes**

The end-of-session questionnaires demonstrated significant learning using retrospective surveys, yet such surveys are very subjective tools. To assess the knowledge and skills gained by the participants, the indicator of farm plans (complete and whole) was used. If a participant could develop a whole or partial farm plan, it was reasoned that skill and knowledge had been gained from the program.

Because of this training, 26 whole farm plans were completed by participants with their farmers. For the terms of the survey, a complete whole farm plan was defined as including: a list of the human, natural, material, and financial resources the farm had under its management (whole under management), a whole farm goal, a whole farm financial plan, and comprehensive grazing plan and land plan (if applicable).

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| A significantly greater number of *partial* farm plans were completed - 267 (See Table 2). Eighty-five farms completed a whole farm goal and 72 farms defined their whole under management. Thirty-three farms completed a plan for comprehensive biological monitoring, 31 farms have a comprehensive grazing plan, 24 farms have a whole farm financial plan, and 22 have completed a holistic land plan. These numbers and outcomes also demonstrate that participants gained both knowledge and skills because of this program. | | | |
| **Table 2: Partial whole farm plans completed** | | | |
| **Partial Plan type** |  | **Total** |  |
| Whole Under Management |  | 72 |  |
| Whole Farm Goal |  | 85 |  |
| Whole Farm Financial Plan |  | 24 |  |
| Comprehensive Grazing Plan |  | 31 |  |
| Comprehensive Biological Monitoring |  | 33 |  |
| Holistic Land Plan |  | 22 |  |

**Total Partial Plans 267**

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| Questions on the electronic survey also served to assess skills acquired because of the training program. Table 3 delineates skills the training focused on building. One-hundred percent (27) trainees have improved their ability to set goals. Twenty-five (93%) report increased decision-making skills and 24 trainees (89%) have improved their financial planning skills. Twenty-two educators (82%) report they have improved their communication skills with farmers and 21 have improved their abilities to develop comprehensive grazing plans with producers. Whole-farm planning skills have improved for twenty agents (74%) and eighteen report (68%) increased land planning skills. Fifteen (56%) report better abilities in delineating farm assets. Again, since self-reporting is subjective, the indicator of whole farm plans was used as a barometer for skill building. Yet the data contained in Table 3 supports and highlights the areas of skill building realized by the program participants as a result of the training. | | |
| **Table 3: Improved Skills for Ag Educators** | | |
| **Types of Skills** | **Percent of class** | **Numbers improved** |
| Goal setting | 100.0% | 27 |
| Financial planning | 88.9% | 24 |
| Grazing planning | 77.8% | 21 |
| Land planning | 66.7% | 18 |
| Resource delineation | 55.6% | 15 |
| Decision making | 92.6% | 25 |
| Communication with farmers | 81.5% | 22 |
| Whole Farm Planning | 74.1% | 20 |

The follow-up phone interviews conducted by Dr. Ann Spencer provided rich and specific information about how the training program impacted the participants. Included in the numerous impacts was a shift in attitudes and awareness, as well as an increase in skill sets not measured in the electronic survey. These learning outcomes are documented below. Additionally, the interviews identified action outcomes in the form of changes in educators’ behaviors when interacting with farmers. *It is clear that the training shifted the attitudes of the agricultural professionals, which in turn, changed their approach and content of their work with farmers, thus significantly affecting farmers’ practices*.

**Holistic Thinking**

All the participants shared that they now think about problems and decisions using a holistic perspective. Some participants, like Sam Fuller (NOFA-VT Livestock Specialist) began the training with a tendency to think holistically: “I gravitated toward this holistic planning, but the Holistic Management framework gave structure and tools to that perspective that I had before.” Kerri Sands (Farms of the Future non-profit) states: “I had always believed in the concept of going wide and then narrowing down and then getting detailed about how you are going to achieve your goals. The Holistic Management tools helped me express what I meant and gave me language to apply to decision-making. . .” Craig Oshkello (Land for Good non-profit) describes: “So this has given me a clear format for working with clients on whole farm planning. I had been doing it, but hadn’t taken the time to say ‘This is exactly how I do it.’ This training gives me more structure to my professional work as an undercurrent to organizing my thinking.”

Other participants described a paradigmatic shift to thinking holistically. Donna Murray (Rensselaer County Agriculture Economic Developer) describes: “I’m looking at the whole farm instead of pieces of the farm. Instead of looking at production or herd health, this training encourages you to look at all factors.” Chrystal Stewart (Cornell Cooperative Extension) explains: “The best tool I received is the ability to talk to farmers about their entire farming operations rather than the technical aspects I had expertise in. . . It’s the whole big picture and we’ve always focused on the little bits of it and it’s not enough.” Katie Cavanaugh, a third generation farmer as well as an agricultural professional describes: “There was a perspective shift for me. Watching my parents struggle so much and watching my grandparents struggle on the farm . . . You have to take that time to look at the whole picture, not just the farm.” Jim Ryan (Vermont Soil and Water Conservation) states: “HM training helps with big picture thinking when I do work with farmers and loggers. Sometimes it’s trying to get them to think outside the box a little bit rather than gouge a living and get by.”

Consistently, trainees described that they understand farm management differently than they did before the training. This change in worldview is a major impact of the training. Participants now approach decision-making and problems differently by looking for root causes and making sure all decision-makers are at the table, using concepts from the training and understanding issues through a holistic perspective.

**Improved Confidence and Credibility**

Because of the training, some participants report a greater feeling of confidence in their professional abilities which results in improved credibility with the farmers they serve. Chrystal Stewart explains that her new holistic perspective, gained from the training, changes the way she thinks about the farms she advises:

Now I think about the bottom line of a farm a lot more when I make a technical recommendation. I used to think: “You need this and you need to think of a way to pay for it.” Now I consider how they actually will pay for it and that’s been the biggest change for me. My farmers appreciate it subtlety. Looking back, it must have been annoying of me. It increases my credibility. Once I started offering financial assistance, I’ve certainly had a lot of farms take me up on the offer. It’s allowed me to work with more farmers.

Diana Shivera (Maine Organic Farmers and Gardens Association Livestock Specialist), notes that an outcome of her training has been to reduce gender-biased barriers:

They are resistant to a woman: “What does she know about calls?!” But last fall I went to a farm and they were actually listening to what I said! With them I was talking about getting their holistic goal established and they were receptive! Those dairy farmers – some I can sit down at the kitchen table and talk about pasture management now and I wasn’t able to before. I have a better understanding and am more comfortable than I was before, so now I have a basis for what I’m telling them. I think my confidence shows and I’m getting a little bit better reception from them.

The training has helped Katie Cavanaugh realize the value of her own farm life experience in her practice as an agricultural professional: “I saw what I had to bring to the table as a farmer rather than an extension agent with the educational background. I came to understand that my viewpoint was important. And I didn’t know that before . . . When I started the course, I didn’t even talk about that I was a farmer.” Because Katie now thinks holistically about her own experience, her farmers benefit from both her professional and relevant personal insights. Before the training, this information was not available to them and her assistance was less credible.

Dean Bascom (NRCS – NH) reports that his confidence has grown because he understands his role differently – as the facilitator rather than the expert. “The farmer/producer is the expert on what he’s doing in that location. I’m not an outside expert called in to give answers but more a facilitator to ask questions to help them go where they want to go. . . I lacked confidence, but with this coaching and reminding myself that I’m the facilitator, I’m there to help direct their learning and draw on what they bring.”

This increased sense of confidence and the resulting improved credibility in the farming community improves the effectiveness of these agricultural professionals, clearly a valuable outcome of the training. Mary Johnson (NRCS – MA) sums it up: “I’m getting a lot of good feedback – more than I did before the training. A farmer said this process is much more helpful.”

**Action Outcomes – Behavior Changes**

The data and anecdotes shared above demonstrate an increase in knowledge and skills in whole farm planning techniques and methods along with a change in participants’ attitudes and awareness of using a holistic approach when working with farms and farmers. The information below demonstrates a variety of ways these new knowledge, skills, and changed attitudes manifested in the participants’ work with farmers.

**Informed Questioning**

An outcome that follows a change in thinking is a change in the way participants talk to farmers. Thinking holistically informs participants’ support for farmers’ problem solving, particularly through new lines of questioning influenced by the training. Heath Eisele (NY NRCS) explains, “I don’t always have the opportunity to go through the whole process, but the training concepts stick with me and help me direct my questions and my interactions. . . In meetings or talking with farmers, I’ll ask, ‘What do you feel is the root cause of the problem?’ I use the questions to pull out more information so we can both make a better decision.

Elizabeth Marks (NY NRCS RC & D) describes her approach: “I can help them talk things out by asking key questions, like: What is your ideal farm you are trying to create? What is your goal with your animals? They can talk that out and I can be a sounding board. Then I can provide technical information that they may not have.” She describes an increase in efficiency that improves her ability to facilitate:

Today I was on a conference call with an ag committee and they were asking: “How do we assist livestock producers?” I explained that there was making or growing, processing the product, and marketing the product. Then I asked: “What is your weakest link?” They immediately said: “Processing.” So now we know we need to try to improve processing. They are now directing resources to the thing that needs it most.

The ability to question effectively using a holistic perspective indicates a clear impact of the training. Participants demonstrate the shift in their thinking by asking different questions than they did before the training. The training’s impact is also evident in participants’ reporting of a change in the way they interact with farmers.

**From Expert to Facilitator**

Because the participants understand the value of the questions to support a farmer’s decision, they report a shift in the way they approach farmers, meeting them where they are instead of arriving on the farm as the “expert.” Dean Bascom (NH NRCS) explains: “The biggest thing is the way I ask questions to get behind what the immediate problem or crisis of the day is. To try to work with them to fit my recommendations into where they are headed.” Abigail Jones (Farmer Educator) reports, “I am asking better questions and getting them to talk more about their concerns instead of telling them what I think their concerns should be.” Mary Johnson (MA NRCS) says: “I have a lot more ways of asking people questions to find out what they really want and ways to get them to collaborate without arguing.”

Participants now understand their role as facilitator to support a farmer’s thinking with the added benefit of the ability to supply technical resources and knowledge as required. Instead of prescribing practices, the program participants now describe listening and guiding the farmer to make a good decision that fits their values and their situation. Gabe Clark (Farmer Educator) summarizes what many participants see in their work:

Things that I knew inherently would help them, they had to learn on their own. People don’t learn by just being told. They needed to learn on their own and see the benefits through their own learning process. I’m a lot better off if they learn how to teach themselves rather than relying on me acting as a teaching role.

Elizabeth Marks explains how shifting her stance enables her to be more effective in two ways – helping farmers work toward their goals and then being able to supply targeted information:

I think before I was more likely to come in and say, “Here’s what you should do.” Now I realize what is most helpful for farmers is to have a sounding board so they can talk out solutions themselves. Because when they talk it out and come up with their own solutions, they are more apt to implement them. I can help them talk things out by asking key questions, like: What is your ideal farm you are trying to create? What is your goal with your animals? They can talk that out and I can be a sounding board. Then I can provide technical information that they may not have. Like if they wanted to know about an eco-system process like the water cycle. If a farmer says: “My pasture’s dried out. How can I increase this?” Then I’m able to say: “If you increase organic matter, than your pasture will hold more water. If you eliminate bare ground, evaporation will decrease.”

Participants indicate a shift in professional practice from consulting with farmers as an “expert” supplying knowledge, guidance, and instructions to working with farmers as a facilitator to support the farmers’ own decision-making. As a result, work with farmers involves a more meaningful relationship and the farmer educator’s effectiveness is increased, partially because they are able to provide technical advice as the farmer realizes its need and asks for it This shift in professional stance has resulted in an increased sense of confidence for many participants as they no longer feel pressured to “provide the right answer.” Furthermore, many report better reception from farmers and a higher perception of credibility for their work with the farming community.

**Applied Holistic Management**

While the training has improved agricultural professionals approach to their work, it has also improved what they can offer to farmers: the principles and tools of whole farm planning with Holistic Management. Information from the interviews helps us understand the way participants use their training on the ground with farmers.

**Tools and Processes**

While many training participants explained that they modified the tools from the original format provided in the training, they consistently reported *using* the tools presented to them during the training. All trainees utilize the whole farm goal process and the testing questions. Their survey results indicated that the most impactful and lasting part of the training was their understanding of the Holistic Management decision-making framework – “having people give names to those parts of their lives in an organized fashion” (Kerri Sands). Consistent with this, in the interviews, all participants noted that they used the whole farm goal and the testing questions, albeit informally for some. Likewise, all participants utilize the concept of “quality of life” in their work with farmers and personally.

Most participants who continue to work directly with and/or as farmers indicated that they use the financial planning and monitoring tools. Trainees who work with livestock producers use the managed grazing and the pasture monitoring tools, but all do not use them to the same extent. Sam Fuller remarks:

Something I haven’t utilized as much initially but I think is a valuable skill is the biological monitoring. I’m starting to develop those skills in my work and how to really set up biological monitoring. The financial monitoring seemed a lot easier with me to tap into with my work with farmers, but the biological monitoring seemed like a wonderful tool and I’d like to develop it more. In some ways the feedback loop on that is longer. It’s usually not the first pressing thing – the principles of good pasture management are important, but to get people to engage in doing biological monitoring is more difficult. But that is a skill I value and would like to engage with more.

Other participants indicate that they are still acquiring confidence to use the monitoring tools by practicing with them over time. Mary Johnson states: “It really takes a long time for this process, this re-training to become effective. It’s very complex and it’s worth it, but it takes a long time.”

Agricultural professionals also indicate that seeing the effectiveness of the Holistic Management processes takes time. Donna Murray explains:

“A lot of time these types of processes take not just a few months, but a few years. So you don’t always get the results right away. It takes a while for the learner to process all the information, so they might not realize it right away. It might be down the road when they realize the significance of what they have learned. A lot of these grants, they want to see the results right away, but you don’t see the results right away.”

Gabe Clark concurs:

Sustainability is not a target, it’s a process. With some farms I work with, they are all at different points in the process – some are on board and some are just starting and have a lot of changes ahead. It’s impossible to have farms reach things quickly because farming is a slow-moving process. One-year goals are nice, but five-year goals are where you can see significant change. It takes a while to get infrastructure and knowledge in place.

**Including Everyone**

Training participants report that they apply Holistic Management in their practice by having an increased awareness of the decision-makers and the importance of their participation. Heath Eisele explains: “It changes the way you think when you work with farmers. Now I ask probing questions about operations. I was wasting my time by not talking to decision makers on the farm.” Donna Murray says: “When working with farmers, I make sure I have all the information, like not excluding anything that might be important to the decision-making process and making sure everyone is at the table and they know all the resources that are available to them.”

John Keidel (Farmer Educator) describes his changed practice:

If in a meeting, it’s easy to relate to the question: Wait a minute. Who are the decision makers here and are they in the room? And not being intimidated about asking what the goal is, and are we headed towards it? And are the people in the room the ones who are going to get us there? And if it’s just for the financial bottom line, we are not going to be enlightened and better people with the outcome. We may be pleased, but not satisfied.

**Impacts**

Because of the participants’ work with farmers, the farmers made changes that benefited their land, profitability, and quality of life: the three pillars of sustainable agriculture. A collective 495 changes were made on farms in New England as a direct result of this training (See Table 4). As a result of participants’ work with farmers, ninety-one farmers revised their processes for setting goals and 85 farmers reported increased farm efficiency. Eighty farms have implemented new grazing methods, 53 farms use new Holistic Management-based record-keeping systems, 47 farmers use the Holistic Management based “testing questions” in decision-making and 38 farmers use new financial planning methods. Thirty-six farmers report using improved conflict resolution methods on their farms. Thirty-four farmers now use biological monitoring and 31 farmers have implemented new communication methods.

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| **Table 4: Total farmers making specific changes in practice** | | | |
| **Types of changes** |  | **Numbers of Farmers** |  |
| New goal setting processes |  | 91 |  |
| New financial planning methods, including doing so for first time |  | 38 |  |
| New record keeping systems |  | 53 |  |
| New communication systems (e.g. meetings, white boards, radios) |  | 31 |  |
| Biological monitoring |  | 34 |  |
| New grazing methods implemented |  | 80 |  |
| Use of Holistic Management testing questions in decision making |  | 47 |  |
| Improved conflict resolution methods |  | 36 |  |
| Increased farm efficiency  **Total Changes** |  | 85  **495** |  |

The changes resulting from the participants’ work with farmers have benefitted farmers in a number of ways, most notably in reported improvement in their quality of life. Agricultural educators reported that 118 farmers indicated better life quality because of the Holistic Management principles shared by the trainees (See Table 5). Other benefits enjoyed by farmers include improved environmental conditions (82), improved profitability (72), and improved livestock productivity (70). Twenty-five farmers have indicated improvement in their crop productivity to their ag agents.

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| **Table 5: Benefits to farmers as a result of changes made through Holistic Management** | | | |
| **Types of benefit** |  | **Total** |  |
| Improvements in livestock productivity |  | 70 |  |
| Improvements in crop productivity |  | 25 |  |
| Improved profitability |  | 72 |  |
| Improved environmental conditions |  | 82 |  |
| Improved quality of life |  | 118 |  |

Changes in practice based on principles of Holistic Management also affected farms, particularly in the practice of cover cropping (See Table 6). One hundred forty-two farms have increased their cover cropping with a related seventy farms reporting less bare ground. Other farm impacts include improved farm profits or gross sales (28 farms), increased efficiency (28 farms), and improvement in the time it took their livestock to reach market weight (ten farms). Nineteen farms indicated that their conflict and stress levels have decreased.

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| **Table 6: Impacts on farms because of change to Holistic Management Practices** | | | |
| **Types of Improvements** |  | **Total Farms** |  |
| Increase in farm profits or gross sales |  | 28 |  |
| Percent or acres of land cover cropped |  | 142 |  |
| Percent or acres of land with less bare ground |  | 70 |  |
| Improvement in time to reach market weight |  | 10 |  |
| Savings in time resulting from increased farm efficiency |  | 28 |  |
| Reduced conflicts on the farms |  | 19 |  |
| Reduced stress levels on farms |  | 19 |  |

**Effect on Farmers**

Participants report that the effect of their training on the actions of their farmers has been multi-faceted. Trainees now are better able to help farmers focus on key management issues, attend to their quality of life, and lend support to decline ideas or enterprises that might not be to their advantage.

**Farmer Focus**

Working together on the whole farm goal positions farmers and agricultural educators to pinpoint the most impactful areas of farming and farm life. Sam Fuller explains: “To help people understand the planning process and focus on key pieces of their farms. Asking those testing questions. . . In that planning process we will get caught up inside projects and bringing it back to their whole farm goal really helps focus them, to help them make key decisions, because it’s easy to get lost in the details.” Keri Sands describes her practice: “This is a process thing more than a content thing. By having a template that you work through – when you sit down to begin an educating or advising relationship, the producer is comforted by being able to see a map of where you’re going. At least one point on that map is something that is appealing to them. They’ll be like: ‘Yea, that’s the question I ought to be asking.’”

Ciro Lo Pinto (PA NRCS) describes a farmer who benefitted from some focused advising once he understood the Holistic Management process:

I was working with a farmer/hay broker. He has equipment spread out all over the country. Makes and delivers hay all over the East coast. And he has a cattle operation. And he’s had some mineral income. And he’s getting some wind turbines. He’s always been a sharp guy with finances. But he never thought about the way Holistic Management does things with expenses, planned profit, etc. I had a big piece of scratch paper and I was drawing things and arrows, and he was totally taken aback with how much sense it made – that each business should have its own sheet. He made me leave all my scratch notes with him. He said, “I’m seeing a whole different way of looking at it.” The guy was really sharp and he saw some real value in a fifteen-minute tailgate talk on Holistic Financial Planning.

Chanda Lindsay (USDA NRCS – Black River – St. Lawrence RC&D) describes the impact of focus: “An organic dairy farmer – not a planner, but had great ideas and always jumped back and forth between trying new things and great ideas. By focusing on his goals, we helped him try one or two things instead of focusing on several things and never knowing how it worked. His big thing was trying new tillage practices but he never monitored, so he didn’t know what was happening.”

Elizabeth Marks shares a success story of a farmer who focused on grazing once he understood about Holistic Land Management:

Several other farms learned about winter animal impact, so instead of keeping their animals in a barn or barnyard, they are rotating their animals among their pastures so they can have animal impact in the winter. One farmer who did this for two years saw an increase in pH from 5.8 to 6.3 with no addition of lime or any other inputs. His organic matter went from 3% to 6% and he is saving about 300 gallons of diesel fuel because he’s leaving his round bales in the fields and fencing off paddocks and then not cleaning out the barnyard in the spring.

**Quality of Life**

Several training participants described their farmer clients benefitting from the quality of life concepts embedded in the Holistic Management framework. Katie Cavanaugh, a fifth-generation farmer, states:

The idea of a quality of life and you have to incorporate that in your plan. I am able to encourage that when I sit down with farmers. Nothing else looks at that and it is a big part of why we do what we do and it’s a big piece we have to account for. Most farms are small farms and we struggle with getting bigger because of the demand, but the reality is you may not want to get bigger. So how do we do the best with what we have?

Sam Fuller recounts a situation that exemplifies Cavanaugh’s explanation:

I was working with a chicken farmer who was looking at starting a turkey business on top of it. And there seemed to be a great financial incentive to taking on turkeys. They had a great pay price offered to them that made it seem lucrative. They were looking at all the different pieces of how to do turkeys and the different investments such as hoop structures for turkeys and lining up people for slaughter[ing turkeys]. I knew their slaughter schedule was mid-spring to mid-summer. And turkeys start up at mid-summer until late fall. Using the quality of life question helped her to pull back from: “I could make a lot of money” to realizing that she was really drained from her chicken season and that early fall is the time she spends with her husband and doing the other work she does. So, it helped her to see that it would compromise her other quality of life. So, she understood she’d need to shift her chicken business so the turkeys and chickens overlapped OR the financial incentive was not worth the threat to her quality of life.

**Intelligent Declining**

According to the training participants, the potency of Holistic Management’s conceptual linkage of quality of life and financial management particularly affects farmers. As a result, several trainees report that they are able to support their clients to “just say no.” Katie Cavanaugh remarks: “When I talk to my husband or other farmers, I now say: It’s not okay to work yourself to the ground because there is not necessarily going to be an end.” For New England “Yankee” farmers, that perspective is a significant paradigmatic shift. Several participants’ anecdotes illustrate the point:

Kerri Sands tells us about two eager beginning farmers in Maine:

I talked to a young couple this past November who are new to farming. They’ve been apprentices and recently bought land. They plunged in with a zillion vegetable crops and some livestock. [They learned about Holistic Management] and eliminated five or six crops they thought they had to grow because “you gotta” have them in your market mix and they focused on ten things their land, their equipment, and they were suited for. They said they took a huge financial leap forward when they eliminated them.

John Keidel describes the impact on his own farm:

One thing the Holistic Management training has instilled with me is I’m always one who wants to go larger rather than small. So if we go into beef I want to bring in forty instead of ten. I always want to drive it and make money. But with the whole farm goal, it drives it. My wife is the one who’s got the brakes on. Twenty years ago, I would have not liked the brakes, but now I use the testing questions or the gross profit analysis and then just go, “NO, this isn’t going to make it.” If it’s not going to benefit our own freezer, stomachs, our cookie jar, or the land or our enjoyment of it, it’s not going to make money. The decisions are much more easily made after the Holistic Management training.

Chrystal Stewart explains how the framework supported her work with some overwhelmed farmers:

I worked with one specific farm – they were doing five operations: veggies, dairy, meat, chickens, baking bread, and homeschooling kids. They had a series of bad things happen. I was able to tell them: you have to go back to your core mission. Then we will look at what is profitable. Then you are going to stop [what isn’t helping you]. Over time, they could see the effectiveness of the quality of life values. They could see that if their birds hadn’t died, they would have lost money. I’ve helped farms get out of operations because it was habit rather than because it was a good idea.

**Another Demonstration of Learning**

The phone interviews indicate that participants had synthesized the training information so that they could successfully apply the principles and tools of whole farm planning according to the models supplied in the trainings. Additionally, participants’ recounted several anecdotes that indicated they were able to modify whole farm methods to cater to specific client needs. This ability to tailor knowledge to unique farming situations indicates an advanced understanding gained from the training.

**Simplification**

Many trainees report that they simplify the application of the Holistic Management framework when they are using the concepts and tools in the field. This simplification occurs in three ways: by changing the language, the presentation of the model, and in the delivery of model.

Some of the participants noted that they used the concepts, but not “the jargon.” Jim Ryan states: “I don’t necessarily follow all the language, just the concepts. I’m not using the jargon but the concepts and principles.” Diana Shivera says: “A lot of the farmers I work with are organic dairy farmers. I could ask them questions, but never give them jargon.” Mary Johnson explains: “I usually don’t tell farmers I’m doing Holistic Management; I just incorporate it into my work with them.” Chanda Lindsay refers to this as “stealth Holistic Management.”

In the field, the movement away from the formal language of Holistic Management is part of the informal use reported by trainees. Jim Ryan, a farmer himself, describes how he shares Holistic Management:

I’m talking with my peers. I go to a lot workshops about growing brassicas, strawberries and other crops. New farmers, younger folks in their twenties, they just want to farm. They don’t have a clue. They may have land, but they don’t know what to grow, what the market will be, what their quality of life will be. So in more subtle ways, not like I’m meeting formally with farmers and going over Holistic Management, but at potlucks or more informal settings, I’m trying to pull this stuff out of them to their benefit. Sometimes the light bulb will go on.

Apparently, Jim’s example is effective. “Some farmers . . . are admiring what’s going on here and maybe take some ideas back. As part of the North Country Farming Network, I’m going to be doing workshops at my farm to share some of the Holistic Management work with them. . . “If they ask you to host a workshop, that’s saying something right there. It’s a testament to what I’m trying to do.”

Craig Oshkello explains that he shares Holistic Management concepts while socializing with the neighboring farmers in his land trust. “It’s helped me have more interesting conversations with farmers on their land use, being able to talk about grazing with neighbors based on Holistic Management principles and its potential effects.” Like Craig, Abigail Jones also helps her friends: “I’m informally using Holistic Management with some friends’ farm. I’ve been asking them about how they want their relationship with customers to be, their impressions with their neighbors to be, how they want to graze. They aren’t ready to go to the next level of intentional rotational grazing, but they are working on a business plan and I talked to them about sources of money. I put things out there.”

Agricultural professionals modify their delivery of the concepts of Holistic Management in their informal social interactions with their local farming community to communicate effectively. This same trend toward modification for better communication occurs with their use of the Holistic Management tools. Elizabeth Marks reports that she:

. . . came up with a worksheet for people to work on for a holistic goal and quality of life statements. “List some of your core values and things you love.” I’m coming up with an exercise for farmers who are resistant to a written goal. I tell them, “When you write a grocery list, you are more likely to get the items on your list than if you go into the store with it in your head.” Then I have people pick a partner and one person will be the shopper and the other will list desired “purchases.”

Donna Murray has found that the Holistic Management pasture-monitoring tool is too “cumbersome” and “time consuming” and “a lot of farmers won’t use it.” She plans to refine and simplify the process with her farmers so that they will apply it. Abigail Jones agrees: “A lot of tools in their original form were cumbersome, so I haven’t used them the way it was taught to me.” John Keidel echoes: “I don’t use any of the actual sheets or tools.” Sam Fuller explains: I’m mostly modifying the tools. Even though they are tangible and helpful tools, they are beyond what most people are ready to engage in.” Mary Johnson modifies “by just taking sections and working on them.” Ciro Lo Pinto reports: “I came up with some sheets of my own where it gets to the point of who are the decision-makers? What are the tools available – skills, equipment, resources, and facilities? Who has the veto power?”

Some trainees have found that the inter-personal delivery model of Holistic Management sometimes limits their ability to meet people’s needs, so they distribute reading materials and check back in with farmers later to offer support. Susan Richards (NY NRCS RC & D) describes a vegetarian couple running a vegetable farm:

They brought in chickens. Initially they had not thought about incorporating animals into their farm. They didn’t have time to sit down with me, so I provided materials and we discussed things very broadly. We look at it as all of us being learners. They incorporated chickens, sheep, and now beef. They decided to incorporate animals to create a natural system that includes livestock on the farm. The idea of a farming system that would include livestock was very strong in what they saw when they read the Holistic Management articles.

“If nothing else,” Susan explains, “I share the reading materials and tools.”

Kerri Sands agrees: “Even when I haven’t been directly advising, I still get phone calls. I chat and then I recommend getting the book or direct them to someone who is trained. I’ll run down what a holistic goal is and share some testing questions right on the spot.” Alex Metzger (Farmer Educator) describes a similar process: “I worked on an educational farm to establish a holistic goal and the testing questions. This gives them a solid foundation to rest on and go with. Then I gave them a copy of the book.”

**Conclusions**

Looking at the interview and the survey data together clearly tells us that the trainees believe that their participation has positively affected farmers and farms. Trainees credit their improved mindset and skills. Participants are thinking about the Holistic Management principles and sharing them with the farmers with whom they work. Nine hundred and twenty-nine (929) New England farmers have now been exposed to the principles of Holistic Management. Educators are talking in workshops, at potlucks, around kitchen tables, at board meetings, and on truck tailgates. Educators’ paradigms have shifted to a holistic worldview and they share it in their work.

Specifically, agricultural educators are breaking down the principles and practices into pieces they think will be useful for their farmers. Only 26 whole farm plans were completed compared to 267 partial plans currently in use, a 1:10 ratio. The simplification of the language and modification of the tools cited by the participants indicates an internalized understanding of the Holistic Management principles. Agricultural professionals are able to apply the principles “in their own words” tailored to the abilities and situations of their farmers. If the participants were not conversant and confident with these principles, they would simply use the tools as supplied. However, because of a deep understanding of Holistic Management, they are tailoring their presentation of the principles to their clientele. Farmers are thus applying Holistic Management principles on their farms (See Tables 3 – 5).

The most meaningful areas of impact from the training for the educators (and consequently for the farmers) cluster around perspective. One hundred percent of trainees interviewed described a shift to holistic thinking. One hundred percent reported they had improved skills in setting goals. Ninety-three percent reported improved decision-making. These skills are driven by a change in perspective to thinking holistically. Once this shift is accomplished, educator behaviors change accordingly. Educators who once regarded themselves as “experts” now understand their role is to “facilitate” farmers’ decision-making, which results in an increased sense of confidence and improved ability to ask effective questions and better overall communication with farmers. This, in turn, reduces barriers, which generates improved credibility for educators along with an increased ability to reach farmers to support meaningful and positive change.

Educators are effectively supporting farmers to shift their perspective toward holistic thinking. Farmers completed 85 whole farm goals. Seventy-two farmers delineated their farm resources and assets. A relatively few farmers (33 and fewer) completed financial plans, grazing plans, biological monitoring plans, and land plans (See Table 2). These data indicate that educators are appropriately starting their work to move farmers to a holistic perspective. It would be expected that from this first step, over time, continued change in land and financial management would follow.

Underscoring this trend of farmers moving toward holistic thinking, educators report that 91 farmers report new goal setting practices and 85 farmers report improved farm efficiency. (See Table 3). These changes indicate a shift in perspective rather than a rote application of skills. For instance, the third biggest change farmers report is improved management in grazing (80 farmers). For a grazing plan to be implemented effectively enough to show improvement, a farmer needs to understand *why* and *how* the various systems interact – an indicator of holistic thinking.

Another indication of farmers shifting to holistic thinking is high numbers who report improved quality of life to their educators – 118 (See Table 4). The next highest benefits to farmers were environmental improvement (82) and improved profitability (72). These numbers are not insignificant, but again, the gap between the numbers show us that farmers have shifted their thinking and *as a result* are experiencing other benefits rather than merely applying technical advice from their agricultural educator.

This change in farmers’ perspective supported by the trainees’ paradigmatic shift and subsequent changes in practice overall is affecting farmer clientele in a positive way. Improvement in “soft factors” such as quality of life, communication, goal setting, and decision-making underpin a farm’s ability to function. Trainees know that farming is a life-style, not a job, and recognize that their ability to help a farm manage holistically addresses that reality to pave the way to technical improvement. Katie Cavanaugh best expressed it:

I worked with a young couple and we sat down to do a whole farm plan. We’ve got the bare bones down. We’re still working on it. They described it being beneficial to them because they got to talk through these issues with someone. Sometimes you feel like a counselor or a mediator when you’re talking through these issues. Some are hard. We had to figure out what had to be addressed both personally and in the farm venture so they would feel fulfilled. The feedback I got was excellent and I still have a great relationship with them. You know so much. You can’t just walk away. It’s hugely valuable when you are working with the community and you have those connections because they feel confident referring others to you. It’s relationship building. It actually is community building. Because we don’t have the strongest agricultural community. That’s a focus for me. I think Holistic Management helps that. I think my training helps me see the bigger picture- my farm, my family, my life. And there’s the larger picture of the community.