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SANTA FE CITY AND COUNTY
ADVISORY COUNCIL ON FOOD POLICY
Thursday, January 28, 2010

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SANTA FE CITY AND COUNTY
ADVISORY COUNCIL ON FOOD POLICY
1222 SILER ROAD, SANTA FE, NM 87501

THURSDAY, JANUARY 28, 2010

A. CALL TO ORDER

A regular meeting of the Santa Fe City and County Advisory Council on Food Policy was called to order by Katherine Mortimer, Chair on this date at approximately 8:30 a.m. at the Angel Depot, Conference Room, 1222 Siler Road, Santa Fe, New Mexico.

B. ROLL CALL

Roll call indicated the presence of a quorum as follows:

Members Present
Katharine Mortimer, Chair
Sherry Hooper
Julie Anna Lopez
Tony McCarty
Sarah Noss
Carol Rose
Pamela Roy
Steve Shepherd
Steve Warshawer
Renee Villarreal
Mark Winne

Members Absent
Terrie Rodriquez (excused)

Staff Present

Others Present
Louise Pape, Sustainable Santa Fe Commission
Charmaine Clair, Stenographer

C. APPROVAL OF AGENDA

An update on the Agricultural Resolution was added under Old Business

Ms. Roy moved to approve the agenda as amended. Ms. Noss seconded the motion and it passed by unanimous voice vote.

D. APPROVAL OF MINUTES – December 3, 2009

Ms. Villarreal corrected the spelling of her first and last name to Renee Villarreal.

Ms. Lopez entered the meeting at this time.

Ms. Hooper moved to approve the minutes of December 3, 2009 as amended. Ms. Villarreal seconded the motion and it passed by unanimous voice vote.

E. COMMUNICATIONS FROM THE FLOOR

There were none.

F. STAFF COMMUNICATIONS

There was none.

G. PRESENTATION: Sustainable Santa Fe- Louise Pape (Exhibit 1)

Ms. Pape, Vice Chair of the Sustainable Santa Fe Commission passed out a handout. She said the Sustainable Santa Fe plan had been in effect for more than year and the implementation should be improved. She commended the council members and said she appreciated their work and knew everyone cared about the food situation and food rights. She said the task would get greater with the economic trends; three billion more people would be added to the planet by 2050.

A summary of her presentation follows:

Ms. Pape said a report was written by the Pentagon in 2004 that Fortune magazine published after it was leaked to them. The report stated food was a major issue of the climate change. That began the raised consciousness about food.

Ms. Pape had been a farmer in 2001 in the north and grew a high percentage of her food. She realized the pond water should be used for her garden and that winter when there hadn't been much snow, she could grow vegetables because she had water from her pond.

She said the national government's plan was to use GMO's to save food supply by the creation of seeds that were drought tolerant, etc. She thought the plan had no flexibility and had many reasons that wouldn't save the food supply. She said focus should be on the city and county. Other countries had an agency to talk to farmers on how to build a more resilient farm system and how to adapt but the United States had a lot of denial about climate change.

She talked about climate change predictions in books and Dr. Gutsler from UNM who had stated by 2100 the climate in Albuquerque would be like Juarez. He said "the Arctic ice cap was melting faster than predicted" and when that happened would change the world's weather, possibly abruptly and possibly as soon as 2013.

She talked about California and Arizona research on stalagmites that showed when the polar cap had no ice, the jet stream had moved north and created a dry climate. She said seed saving should be the first thing considered and they should be more serious about heat and drought resistant food crops.

Steve Warshawer entered the meeting at this time.

She said the hand-out covered redundancy of water systems and how water could be used more than once. She told how Japanese housewives washed vegetables; used the water again to wash bodies, then the floor and used any water left to water plants.

Ms. Pape said she had been involved in the PermaCulture movement for 20 years and had moved beyond that. She said they should look at how to have perennial plants that would do well at 5,000 feet and said a working group should be formed to consider the issues of climate and food. She said the topic should be brought up with local farmers to see how they could be helped.

Mr. Warshawer thought she proposed a pro-active approach and said it was hard to ask farmers to be pro-active. He gave an example of beef; the share of market of beef had dropped for the last 30 years although it was the most sustainable protein in New Mexico.

He said an adaptive response to demands and requirements was seen in agriculture that generally came from the market. He thought if the climate change sensitive agriculture was demanded by the market farmers, they would supply a product consistent with the demand.

He said part of what had to be done was to change the rules of the debate to make it more market and consumer demand driven. There should be a balance of research, study and innovation with education of the consumer so the consumer would ask for things that supported a more climate friendly agriculture.

Ms. Noss said water seemed at the heart of everything. She said from a policy standpoint the existing city and county ordinances on gray water should be looked into.

Ms. Roy said they should also look at state policies that benefited or impaired the chance to move forward. She said some progress was made on the water issue on drip irrigation and how to benefit water use. She said the laws in combination with the "use it or lose it" should be looked at for modification of water use, especially for agriculture.

Mr. Winne said he wanted to focus on what the FPC response could be. He said he saw three broad categories. The first was a way to coordinate more effectively with the Sustainability Commission. He said they should find the intersections between climate change, food and the food system and where that would lead in terms of policy recommendation.

The second piece was communication. They should find ways to talk about the issues that the common person could understand and what everyone could do about it.

He said last was the policy piece. What policies could be recommended that would produce the answer they were looking for. He thought a lot of work was in prevention; to prevent obesity, food insecurity, and climate change.

Ms. Noss said she had to go back to water again. She was worried about the farmer's in the north that depended on a snowmelt region. She said the climate change was about drought but also about extreme weather like rain instead of snow that created flooding in January and then in March a drought. She thought there was a need for storage of runoff and thought that shouldn't affect obligations to downstream neighbors to store water.

She said she kept returning to that because with extremes of climate change the water could be there but not when it was needed and that should be looked at.

Ms. Roy thought someone from the State Engineer's Office or Acequia Association should come in to describe the policies and why some things could be done and others couldn't be and to identify issues that could be shifted.

Mr. Warshawer said it was one thing to talk about solutions they believed necessary but another to create a broader applicability of solutions that reached the effective landscape. He said if the people who controlled the lion's share of the resources couldn't be talked to, their solutions would be for the few.

Chair Mortimer said they had to go beyond the Office of the State Engineer and look at interstate commerce and amending it.

Mr. Warshawer said a regional strategy that affected the Rio Grande Basin would be needed. He said to look at a localized set of solutions; they had to look at what it would take to effect change of a far-reaching problem. They had to go beyond their traditional boundaries for conversations with strategic partnerships. He said they could easily get groups of like-minded people together to talk about solutions but how could they bring together broader constituencies to talk about solutions with broader impact.

Ms. Noss said at the December 3 meeting a summit was discussed and she had offered to make Market Hall available. She thought a summit should be considered.

The committee discussed the possibility of a summit. A summary follows:

- The summit could present information and gather information and could be fruitful because everyone would be at the table.
- Water resiliency was thought to be a good idea for the summit and people could be shown water could be used a number of times and given practical applications with hands-on learning.
- The FPC should decide priorities and be careful about the size and look at what was reasonable, practical and could be made to happen. It was noted that *Dreaming New Mexico* would have a summit in March.
- The food council should have memorandums in place and agreements beyond one day when minds, resources and ideas came together. There should be a plan of action with short, medium and long term goals and a commitment to take serious action beyond the summit, regardless of who convened it.
- The council should dig into the details and start with what was on the books. The details could be linked to the ideas and recommendations could be made to get people on board.
- Ms. Pape was asked to serve on a committee to create a summit and said she would do whatever was appropriate. She had connections with others in the community that might also be able to help.

- The focus of the summit shouldn't be too broad. City and county ordinances that existed around water should be looked at.

Chair Mortimer suggested that Earth Day was a good day to talk about things the Food Policy Council had done and what was planned for next year. It would be a good opportunity to create a pamphlet to go out to different people and the media. She could gather information and possibly get someone to talk about aspects of it. The rain water and gray water issue was one piece.

The committee discussed the idea.

- The county could be looked at as well for a picture of what was happening in the area and the existing ordinances to provide a better idea of how food and food production was impacted.
- It would be good to have a person from the city, county and state in one room for questions. FPC could have a set of questions for all three people to address at their different levels.
- The Food Policy Council should narrow down what they wanted to achieve and have a game plan. What they would get from the presenters and who should be invited and why should be looked at.
- Chair Mortimer asked everyone to email her with their ideas that could be done in 2010. A white board would be used to set priorities for 2010 at the next meeting. Once the group identified things that should be done, the group could brainstorm how to get them done, who should come in and what should be learned. Tasks could be divided for follow up.
- The council should look at the retreat summary and keep that in mind and how those goals would fit.

Mr. Warshawer said he was concerned the FPC acted like a volunteer committee that was self staffing. He said two things had to happen or they would continue to free float: staffing had to be in place with clear direction and they had to concede the power to give momentum to their chair.

He said the council put in input and the person that presented to them last became the priority. He said the underlying structural issues were why they were where they were, not the lack of good ideas and lack of existing work.

Chair Mortimer said the sub committees were intended to be those smaller groups. She noted the assessment subcommittee would meet after the meeting. She asked if there were other subcommittees that had something to report.

H. SUBCOMMITTEE REPORTS

There were none.

I. BUSINESS

1. Update on Staffing (P. Roy; S. Hooper; S. Warshawer; K. Mortimer)

Ms. Roy said a job description was done but there had been no time to process it. She explained the job description would be put on various list serves with a deadline for application for resumes; the committee would review all applications and choose the top 4-6 people to interview.

Mr. Winne agreed with Mr. Warshawer that not much progress could be made until there was a staff person. He said it took a person that could synthesize all of the work and thought they were slowing down because there was no staff.

Mr. Warshawer said he was a proponent of an executive committee. He thought a leadership forum that sustained momentum and related to staff was necessary to move from ideas into action and the committees were part of the action process.

He said under the current organization even with staff it was a challenge to sustain momentum because all of the leadership was in the chairperson. He said there was no clear picture of how the chairperson or the executive function of the committee maintained momentum for their ideas and projects. He said an executive committee was a proven way to take the burden off of one person's shoulders and make a small group with accountability and diversity and to support staff.

Ms. Hooper said staff was needed to keep them moving but she hadn't seen that with Ms. Maril. She said the staff person should be brought in and it made clear they had to keep the committees moving and motivated. She said the staff person was key but wasn't sure she agreed another committee was needed to keep people moving.

Ms. Roy added that because of the opportunity with Ms. Maril they began to work in a more coordinated function and to understand that was needed. She said that experience had helped to put things in place to maintain order and momentum and continuity.

Mr. Shepherd said he liked the executive committee structure and thought it worked well. He suggested there be fewer subcommittees and to have an executive committee. He thought they drove the agenda and the work plan.

Mr. Winne said he would like to get the staff person on board and then re-visit the question.

2. Update of County Sustainable Development Recommendations (R. Villarreal; P. Roy; S. Noss)

Ms. Villarreal said the changes were still not in the new draft she received and had been re-submitted again.

She said there were about 300 pages and when cut from 1100 pages things had been taken out that shouldn't have been. Once she cleaned up the draft everyone could review it and have an opportunity to make changes internally. The next public hearing to discuss the draft would be on February 4. She wasn't sure if a completed draft would be available at that time.

Ms. Roy commended Ms. Villarreal with the process for including the council in the work and said they wouldn't have had that opportunity otherwise.

3. Review of Work Plan

Chair said that would be the focus of the next meeting to look at comprehensively.

4. Agricultural Resolution

Ms. Noss apologized for failing to let the Food Policy Council know the resolution had gone before Santa Fe County. She said she met with the County planners and the County attorneys to address concerns. She said the resolution was to present the delineated governmental policies for agricultural land and the public benefits in one document with the policies for Santa Fe County and their wishes for the preservation of small agricultural parcels. She said Mr. Sheppard presented the memo and it went to the County Commissioners on Tuesday.

Ms. Villarreal said the commissioners hadn't read the memo or understood it was procedural. They got off track on how the county resources would be used if the resolution was passed. She said she tried to explain and the commissioners were still confused. The resolution passed in the end but the commissioners wanted clarification of the financial impact to Santa Fe County. She said she considered doing a memo to explain it.

Ms. Noss said the language was incorrect and could be fixed internally. The resolution had been edited at the County Legal Department and was grammatically wrong and something in the law had been removed about preferential treatment of agricultural land. She said the attorney for the assessor approved the language.

Mr. Winne asked if they could summarize the resolution.

Ms. Noss said there were five ways to put land into an easement according to the IRS. Agricultural land had to have clearly delineated governmental policy that showed public benefit. The resolution provided that and combined city, county, state and national statutes, ordinances and resolutions and talked about the benefits of that.

Ms. Roy said Councilor Vigil wanted everyone to understand the commissioners supported the effort and had her questions had been about sustainability.

Ms. Villarreal said Commissioner Anaya set the tone when he asked what tax person would do the job. She would wait to see if the resolution was supported by Commissioner Holian and if anything else should be done.

Mr. Winne asked if a map existed that identified prime farmland in Santa Fe County and was told that mapping was a goal of the plan.

J. ITEMS FROM THE CHAIR

There were none.

K. ITEMS FROM THE COUNCIL

Mr. McCarty asked if the food tax was still being considered and told it was taken off the table. He wanted the food council to be prepared to take action if put back on.

Ms. Roy said numerous bills around the gross receipts tax were out having to do with food, soda pop, etc.

Carol asked about the Fresh Connections in last month's minutes on February 8th and was told it was focused on industry and was to connect farmers and producers with people with business knowledge.

Ms. Hooper said Souper Bowl was a fund raiser and would be held Saturday from 11:30 to 2:00 with 32 restaurants that would compete for the best soup. Guests bought a ticket and were given a ballot; after they sampled soups, they voted for the different categories; sweet, seafood, savory and vegetarian. She said it was great community fun, got great press and was a great awareness builder.

L. **ADJOURNMENT & NEXT MEETING:** February 25, 2010

Ms. Noss moved the meeting be adjourned. Ms. Roy seconded the motion and it passed by unanimous voice vote.

Having no further business to discuss the meeting was adjourned at 10:18 a.m.

Approved by:

Katherine Mortimer, Chair

Submitted by:

Charmaine Clair, Stenographer

COUNTY OF SANTA FE)
STATE OF NEW MEXICO) ss

FOOD POLICY ADV COUNCIL
PAGES: 18

I Hereby Certify That This Instrument Was Filed for Record On The 21ST Day Of February, 2011 at 10:59:26 AM And Was Duly Recorded as Instrument # 1627299 Of The Records Of Santa Fe County

Witness My Hand And Seal Of Office
Valerie Espinoza
County Clerk, Santa Fe, NM

Deputy

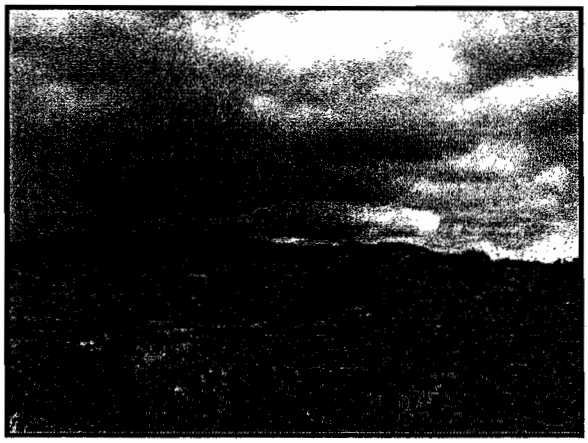
SFC CLERK RECORDED 02/21/2011

7. ECOLOGICAL ADAPTATION

Introduction

Climate change is already beginning, and the coming decades are anticipated to be dominated by major ecological changes. For New Mexico, the following conditions are anticipated:

"Projected climate changes by mid- to late-21st century include: air temperatures warmer by 6-12°F on average, but more in winter, at night, and at high elevations; more episodes of extreme heat, fewer episodes of extreme cold, and a longer frost- free season; more intense storm events and flash floods; and winter precipitation falling more often as rain, less often as snow. Some climate models project that average precipitation will increase, while others predict a decrease. However, recurrence of a severe multiyear drought like that of the 1950s is likely some time during this century."[8]



Fundamental changes in climate will result in serious implications for soil, water, plants, and animals. As temperatures rise, the New Mexico report defines some of the impacts, including: local losses of native species, changes in the timing of life events such as migration or initiation of breeding, reduced local biodiversity, stranding of trees in unsuitable habitat by rapid climate change, significant increases in evapo-transpiration, more massive diebacks due to drought stress, more catastrophic forest fires, increased pest risks, reduction of mountain snow packs, and peak spring runoff from snowmelt shifting to earlier in the season.

The following text lists major environmental impacts that are expected, and indeed already beginning, from climate change, and provides a brief selection of possible actions to help mitigate these changes.

[8]http://www.nmenv.state.nm.us/aqb/cc/Potential_Effects_Climate_Change_NM.pdf

ENVIRONMENTAL IMPACTS OF CLIMATE CHANGE[9] AND SELECTED ACTIONS FOR ADAPTATION

Increased Temperatures/ Less Snow

- Selection of heat-tolerant and warmer zone plants, including food-producing plants, recognizing that plant zones are already shifting;
- Greater plant diversity for prevention of massive die-offs from monocultures;
- Utilization of a balance of annuals for effective plant adaptation to changing conditions; and
- Incorporating biological and architectural shading techniques to reduce increased temperatures and urban heat island effect.

Increased Evaporation

- Consistent organic mulching on bare soils;
- Increased ground vegetation for soil protection and carbon sequestration; and
- Appropriate watering methods. (see Water Conservation)

Increased Risk of Drought/ Earlier Runoff from Mountain Snowpack

- Increased use of water harvesting and recycling of greywater, nd possibly grey/black water reprocessing;
- Maximization of methods for absorption of rain water into the ground with such techniques as swales and gabions, etc.; and
- Selection of plants that tolerate drought as well as inundation.

More Massive Dieback of Plants and Species Extinctions

- Increased plant diversity to ensure survival of the majority of plants;
- Protection of species diversity, including for biological pest control; and
- Protection of pollinators.

Increased Risk of Extreme Weather Including Flooding

- Wind protection from increasingly stronger winds using biological and architectural techniques; and
- Utilization of aquifer recharge areas and drainage for floods where appropriate.; and

Excessive Carbon in the Atmosphere

- Build up organic carbon materials in soils and plants
- Protect soil carbon from unnecessary loss from soil disturbance, including building sites.

[9]http://www.nmenv.state.nm.us/aqb/cc/Potential_Effects_Climate_Change_NM.pdf

Taking effective actions to adapt to the multiple impacts of climate change offers the opportunity to also curtail carbon dioxide going into our atmosphere. Carbon dioxide (CO_2) is naturally sequestered by living plants and by healthy soils. As plants decay or as soils are disturbed, CO_2 is returned to the atmosphere. By increasing the number of growing plants and minimizing non-restorative soil disturbance, there is a beneficial impact on greenhouse gases. The issue, however, is complicated by the fact that as temperatures rise, soils release more carbon[10], so actions are needed to counter heat-induced carbon releases. Therefore action is required just to remain carbon stable over time.

Other advantages exist, as well. When additional plants produce food, they also reduce the large emissions associated with industrialized food transported thousands of miles into the area (See Section 10, Food Systems). Plants and trees can also help reduce the "urban heat island effect" where the temperatures in a city are higher because dark surfaces like parking lots and rooftops are absorbing the sun's radiation.

A complete plan for climate change will include both the sequestration of carbon in soils and plants as well as multiple methods for mitigating the unprecedented ecological changes that climate change is bringing us.

What's Being Done So Far

Santa Fe has an array of ecological programs within its urban fabric. Adapting to climate change requires an overall program to coalesce existing efforts and add additional actions to place ecological preservation and adaptation as the top priority.

The City of Santa Fe's actions thus far include:

- Encouragement of on-site storm water management.
- Implementation of an initial pilot program installing permeable pavement to reduce urban runoff and increase groundwater recharge.
- Requirements for the protection of significant vegetation (trees).
- Landscape ordinance requirements.
- Utilization of yard wastes for mulch.
- Planning for the restoration of the Santa Fe River.

[10]http://www.ctv.ca/servlet/ArticleNews/story/CTVNews/1126185062975_114/?hub=SciTech

Proposed Actions

The City of Santa Fe has the opportunity to proactively adapt to coming climate impacts. Effective planning and actions from multiple departments now can be a powerful force for greatly reducing future negative impacts. Environmental degradation is already occurring, yet taking action now can help us adapt. Utilizing biological and social solutions can offer opportunities over energy-intensive technological solutions to climate change. The benefits include:

- Reduction of CO_2 emissions from current methods of soils, water and plants management, and from future increased releases of soil carbon as temperatures increase.
- Reduction of the "urban heat island effect", making our city more comfortable as temperatures rise and reducing the need for energy-intensive air conditioning.
- Increased coordination with other components of this plan to maximize the synergistic benefits of all.
- Improved utilization of resources with prevention rather than cure by reducing crisis management in the future when these impacts increase in intensity.

7-1. Set an overall city-wide goal of adaptation to climate impacts.

- Define the varied environmental impacts of climate change, beginning with the chart on previous page.
- Select the appropriate actions based on input from multiple sources.
- Write and adopt the adaptation plan that includes measurable goals.
- Widely publicize the goal of adaptation to create resiliency within the Santa Fe community to respond to the effects of climate change. (See Section 11, Education and Outreach.)

7-2. Create systems that maximize use of rain and storm waters for plant support and groundwater recharge.

- Increase permeability of our urban environment by altering pavement, rooftops and other hard surface, using multiple techniques.
- Restore waterways (Santa Fe River and arroyos) to increase the recharge into our local aquifer, which presentlysupplies about one third of our city's water.
- Improve water infiltration to planted areas and into the aquifer, including upgrading existing standards of on-site storm water management to aim for 100% on-site runoff water filtration and uptake by the plant roots, not just detention and evaporation via detention ponds.
- Design water systems to both prevent erosion (which releases carbon into the atmosphere as well as destroys plant life) and protect the aquifer by utilizing soils and plants to help purify the water. Include such techniques as street pavement and parking lot retrofits, bioswales, infiltration galleries, etc.

7-3. Reduce "urban heat island effect"[11].

- Reduce, alter, and manage parking areas, roof tops and roadways to increase water absorption and water utilization by plantings.
- Alter street design to allow for narrower lanes which can be shaded with trees whenever possible
- Reduce dark surfaces, including providing biological and architectural shading, adding more white roofs and roof gardens, etc.
- Increase planted areas while reducing heat-absorbing graveled areas.
- Plan for increased shade with biological and architectural design, including trees that will shade dark surfaces such as roads.

7-4. Protect soils as the foundation of adaptation to the impacts of climate change.

- Manage soils to increase carbon, support plants, and utilize water effectively. Techniques include adding organic matter, adding beneficial organisms, designing appropriate water utilization, natural soil building

[11]http://www.epa.gov/heatisland/

techniques, increased appropriate vegetation, ending the use of herbicides, pesticides and other chemicals, etc.

- Provide soil protection from intense sunlight where appropriate by shading from trees and shrubs, adding mulches, increasing groundcover, etc.
- Create and enforce a strong soil protection ordinance to reduce carbon releases into the atmosphere by significantly reducing the amount of land being disturbed, unless for ecological improvements.

7-5. Improve support for biodiversity with adaptation techniques.

- Protect diversity of existing urban plantings, both cultivated and native by taking care of the existing Urban Forest (plant conglomerates on streets, parks, private yards and around commercial and public buildings). For a successful adaptation to the future changes, the Urban Forest needs to be studied, inventoried, managed, old trees replaced, new plantings vigorously encouraged. In order to realize this, there needs to be a guardian for the whole ecosystem; and an approach that is open to participation by the municipality, neighborhoods, landscape professionals, gardeners and government agencies.
- Develop a list of plants that can tolerate heat and extreme weather events by creating the Plant Adaptation Collaboration (PAL), a group of knowledgable individuals who will select plants that can better adapt to the changing conditions, including zone changes.
- Revise existing City ordinances to encourage planting and site designs that:

- Maximize diversity of adaptable plants;
- Use minimal amount of pavement or other hard surfaces to keep site's permeability maximized by other design solutions;
- Eliminate inappropriate plants (high water use, low heat tolerance, etc) that are not able to adapt;
- Provide full-season support for pollinators, beneficial insects, amphibians, and birds, whenever possible;
- Reduce use of cloned or genetically modified plant material which is most frequently sold by many nurseries and seed companies as they are not as adaptable and can be chemically-dependent;
- Provide a certain percentage of food for humans; and
- Maximize shading of hard surfaces, shelter public areas from winds and exposure to the elements, reduce glare and heat absorption by buildings and pavement.

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http://www.harvestingrainwater.com/ Lancaster, Brad, Rainwater Harvesting for Drylands and Beyond, Volumes 1 (2006) and 2 (2008), Chelsea Green Publishing Company.

CPULs – Continuous Productive Urban Landscapes. Designing Urban Agriculture for Sustainable Cities. Andre Viljoen (ed.) 2005. Architectural Press. Summary at: http://www.energybulletin.net/17603.html

http://www.epa.gov/sequestration/faq.html

10. FOOD SYSTEMS

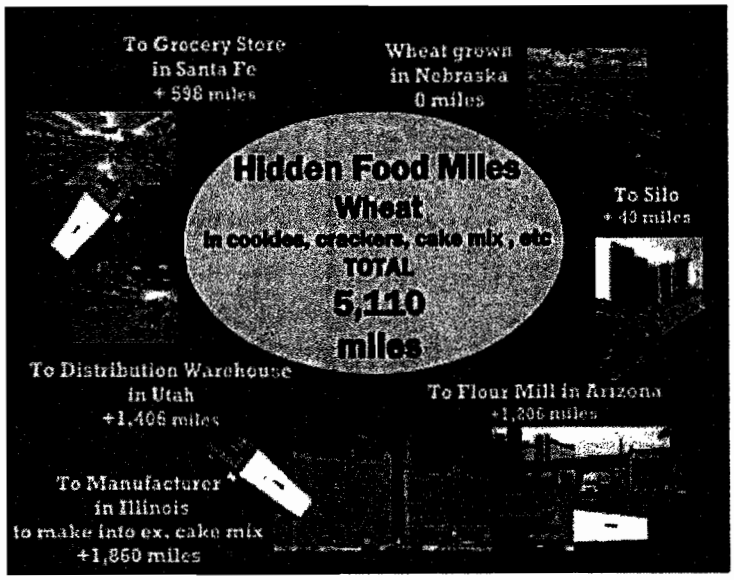
Introduction

Climate change is creating both extreme weather events as well as gradual shifts in weather. Extreme weather events are happening worldwide- unprecedented droughts, huge storms, massive flooding, scorching heat, threatening crops worldwide. In 2007 flood waters covered an estimated 80% of the entire Mexican state of Tabasco, with all the crops being lost.[28] The year before, even Hatch, New Mexico had a flood that drowned chili crops.[29] More gradual changes such as temperature rises and shifting seasons are beginning to impact food growing, as well. Most of these threats are only in their infancy, and the impacts are beginning to be apparent in our grocery stores, and the trend is clear.[30]

What role does food have in creating climate change? The estimated 7% of total emissions from agriculture for the state of New Mexico[31] is misleading because this figure is merely growing food. Our modern food system includes many energy-intensive stages after the food is grown- processing, transportation, and packaging. Transportation alone is estimated to account for about 20% of all commodity shipping based on ton-miles.[32] Adding all these steps together creates our food system with huge GHG emissions. A precise figure is not available for New Mexico, but elsewhere 22% of all emissions were estimated to be from food systems.[33] California has determined that out of all the types of industries, food processing and food packaging are among the largest GHG emissions producers. Even drinks in disposable glass bottles cause substantial emissions.[34]

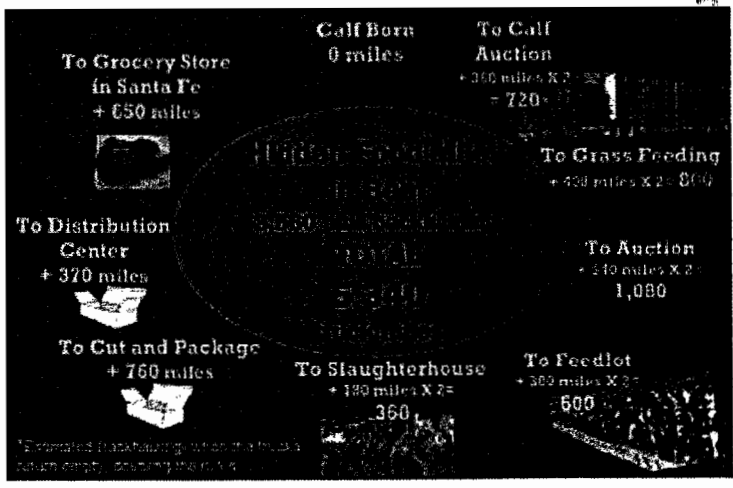
Food miles are surprisingly high and mostly hidden from our awareness. The following graphic shows an example of how many stages it takes to get a packaged product like a cake mix into a Santa Fe grocery store. This is only for one ingredient- wheat flour. Complete GHG emissions would also include the miles for other ingredients, as well as the emissions from all the processing and all the packaging.

[28]http://www.latimes.com/news/printedition/asection/la-fg-mexflood3nov03,1,5413461.story?coll=la-news-a_section
[29]http://www.foxnews.com/story/0,2933,209050,00.html
[30]http://www.sciencedaily.com/releases/2007/12/071203173031.htm
[31]http://www.nmclimatechange.us/ewebeditpro/items/O117F9698.pdf
[32]US Department of Commerce, Bureau of Transportation Statistics, 1997 Economic Census-Transportation-1997 Commodity Flow Survey. http://www.census.gov/prod/www/abs/97cf-pdf.html
[33]http://www.organicconsumers.org/btc/london022706.cfm
[34]http://www.iht.com/articles/ap/2007/12/07/america/Global-Warming-Regulations.php



Wheat Travels Over 5,000 miles from the field to the grocery store.[35]

Another example, getting a hamburger into our grocery store is shown in the graphic below. There's over 3,500 miles for the actual shipment of product (first the animal, then the meat) through the various stages of processes,[36] then add the estimated miles the trucks return empty (called "backhauling"), a total of over 5,000 miles again were driven on our highways. This astonishing mileage for domestic beef. Beef from other countries, would have even more miles.



Trucks travel over 5,000 miles from ranch to grocery store.

[35]http://www.organicconsumers.org/2006/article_711.cfm
[36]http://www.organicconsumers.org/fair_trade/beef.htm

Our food system's complete dependency upon fossil fuels raises the issues of food security and social justice. The price for a barrel of oil keeps increasing, even having reached well over $100 a barrel. Beyond this, more people are concerned that Peak Oil will create inevitable major food shortages, with the decline of petroleum-based agricultural chemicals and the exorbitant expense of food miles.[37] Looking at the two typical food examples above, it is easy to see that fuel price hikes can mean dramatic increases in food prices. Food prices have risen so much recently for multiple reasons, including biofuels made from crops, that low-income people have been rioting in countries around the world.

Curbing GHG emissions and adapting to future changes must begin to make the shift to local food. Local sustainable food reduces emissions considerably while also providing food security for the future. Food systems take years to develop. We need to lay the foundations now.

What's Being Done So Far

The State of New Mexico has already recognized the importance of decreasing food miles by establishing local food as a priority in meeting the state's climate GHG emissions reduction goals.[38]

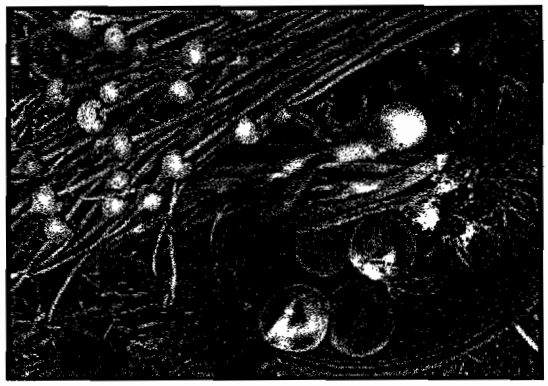
The City of Santa Fe already has some preliminary food-related initiatives including:

- Strong support for the Santa Fe Farmers Market, with a permanent building under construction;
- Legal Gray Water reuse, allowing more water for plants and productive gardens without taxing the municipal water system; and
- Preliminary discussions on the creation of community gardens.

Beyond the City's actions, Santa Fe is alive with numerous non-profits, businesses, and others promoting a wide variety of local food initiatives. This is the perfect time for the City to take a leadership role in goal-setting and coordinating Santa Fe's burgeoning local food movement.

[37]The Lady Eve Balfour Memorial Lecture, Nov. 2007, "What Will We East When the Oil Runs Out? Richard Heinberg http://www.soilassociation.org/web/SA/saweb.nsf/2503d470a9e6ebe280256a8e00554d9e/00f6d238ebdba743802571e10037fa9f/$FILE/LEL07_transcript.pdf and http://www.youtube.com/watch?v=_S0RvVrdvF0&feature=user and http://www.soilassociation.org/peakoil and http://www.richardheinberg.com/museletter/159

[38]The New Mexico Climate Change Advisory Group Final Report, December, 2006. http://www.nmclimatechange.us/ewebeditpro/items/O117F10150.pdf (A-10) This state report also recommends organic agriculture (A 9) and the reduction of farm and range land being converted to development uses (A-8).



Proposed Actions

The City of Santa Fe must lead in the vision of a local food system. This will require involvement of many city departments, many community organizations, and multiple organizations outside the city limits. Santa Fe's local food systems require a double focus– developing a City Harvest program that includes infrastructure for local, sustainable food production, processing, storage, and distribution, and developing the Foodshed project that connects the city with surrounding sustainable producers and distributors throughout the bioregion.

10-1. Set a target for local food.
A target such as "30% of the food consumed in Santa Fe by residents will be from a 300 mile foodshed by 2018" could be set. Percentages can increase over time. The current estimate of the amount of local food consumed in the state is 3%.

10-2. Design and implement a City Harvest (food within the city) program to create multiple food growing, processing, storing, and selling opportunities.

a. Create collaborations among groups that work within the city.

b. Review the variety of urban harvest programs that are happening in the U.S. and elsewhere to expand awareness of multiple techniques,[39,40] and to develop multiple pilot research projects to determine the most productive and sustainable methods for Santa Fe.

c. Identify and reduce barriers- legal, economic, educational, etc. to urban agriculture including the retailing of food.

d. Work with City departments on solutions, including increasing the availability of: Land and

[39]http://www.spinfarming.com/ and http://www.marketgardening.com/wallysmarketgarden/

[40]http://www.growingpower.org/urban_agriculture.htm

other resources for food purposes; Water resources, including water reuse- (see Section 8, Water Conservation); and Waste conversion to provide safe inputs (see section 9, Solid Waste reduction).

e. Develop a plan with targets to promote "Yard to Table".

f. Map and Inventory Productive Land and other locations for food.

g. Create a matching program between those who have productive space and those who would like to garden/grow food in such space, including temporary occupancy programs (TOPs) and SPIN (Small Plot INtensive growing) that allow people to earn tens of thousands of dollars using other people's land including backyards.[41]

h. Incorporate local food into Economic Development and Planning.

i. Include food growing opportunities into all affordable housing as a critical component of economic and food security.

j. Develop programs for urban gardening for the homeless and low-income people, as well as therapy for those with mental and physical disabilities and for urban "at-risk" youth, ex-cons, etc.

k. Dedicate municipal water resources to food production.

l. Develop neighborhood centers for home economics, sustainability, and food-related processes, including shared community facilities such as greenhouses, facilities for food storage, and community kitchens.

m. Provide educational resources for techniques such as water re-use from roof-tops, gray water for institutional re-use, roof-top gardens, and organic food production.

n. Develop guidelines for appropriate growing in Santa Fe based on traditional and appropriate dryland gardening techniques (Waffle gardens, perennial polyculture and mulching systems using locally available materials and living mulches, careful varietal selection tailored to urban food production, etc.).

o. Explore the feasibility of adding acres of ecological intensive greenhouses such as the urban model "Growing Power" after a pilot project has been adapted to local conditions.

10-3. Develop a Foodshed (within the 300 miles range) Program in Collaboration with Regional partners.

- Hire the City Harvester to coordinate both programs, within the city and relationships outside the city.
- Build on existing programs by creating collaborations and partnerships with regional initiatives for both private and governmental programs.
- Preserve Productive Land.
- Explore foodshed-wide policies such as lobbying to keep water rights tied to agricultural lands.
- Reduce transportation by cooperative programs for back-hauling (using empty trucks returning from deliveries), sharing shipments, etc.

References:

Growing Better Cities: Urban Agriculture for Sustainable Development (www.idrc.ca/en)

World Health Organization http://www.euro.who.int/nutrition/security/sectop

American Planning Association's official Policy Guide on incorporating food in planning http://www.planning.org/policyguides/food.htm

CPULs – Continuous Productive Urban Landscapes. Designing Urban Agriculture for Sustainable Cities. Andre Viljoen (ed) 2005. Architectural Press. http://www.energybulletin.net/17603.html

http://www.sustainabilitynz.org/docs/AConvenientUntruthJune07.pdf

http://www.cookingwithkids.net/

http://www.nmclimatechange.us/ewebeditpro/items/o117F10150.pdf

[41] http://www.spinfarming.com/ and http://www.marketgardening.com/wallysmarketgarden/

DRAFT ONLY

Planning for Local Food Adaptation and Resiliency

January 28, 2010

GLOBAL TRENDS: No one can predict with any accuracy what is going to happen to world food supplies, yet we can look at multiple predictions and develop a sense of trends. In 2008 when Australia as a major exporter of wheat suffered serious drought, their wheat crop plummeted, raising wheat prices around the world, which in turn created food riots in many countries. Global international food markets create vulnerabilities even when agricultural disruptions occur half way around the world. Other factors exacerbate food issues, as well, including population growth, with 3 billion more people predicted in 40 years, Peak Oil and more.

FEDERAL RESPONSE TO AGRICULTURAL ADAPTATION TO CLIMATE CHANGE: The Federal government recognizes the need for global agricultural production to adapt to climate change and regrettably is choosing the easy but mistaken answer- relying on corporations like Monsanto to develop genetically-modified (GMO) seeds that will attempt to resist drought and heat. Multiple reasons exist for why this is not likely to work. Vandana Shiva gives an impressive talk about when India suffered drought a few years ago, the farmers who used GMO crops had major crop failures, but the farmers using a diversity of heirloom seeds in rich soils were successful. The failure of our Dept. of Agriculture to not recognize the flaws in continuing dependence on high input monoculture agriculture puts more pressure on sustainable food systems. Certain other countries are already working with farmers on plans for climate adaptation.

RESPONDING TO TRENDS LOCALLY: One can assume that it is not within our power to alter global trends, but it is within our power to give them credence and begin adaptation plans at the local level. No crystal ball exists for what exactly is going to happen with climate change and when, but preparing for likely changes might avoid serious consequences. Santa Fe and beyond already are developing exciting and successful local food programs that greatly reduce food miles, a prerequisite to any Peak Oil adaptation. Yet, more will be needed to adapt to climate change.

SOME LIKELY IMPACTS FROM CLIMATE CHANGE FOR FOOD SYSTEMS: Multiple changes can be anticipated from climate change. Here are a few that need to be given consideration.

- **Rising food prices**
- **Increased heat-** plants and animals all over the world are already migrating towards the poles and to higher elevations, even though the major climate changes have yet to occur. Plant fertility and production can be greatly reduced with increased heat beyond a plant's temperature zone.
- **Loss of snow melt for irrigation and higher evapotranspiration-** even without drought, water will become an issue.
- **Extreme weather-** New Mexico has already experienced crop-damaging droughts and floods. The melting of the Arctic ice cap is anticipated to cause permanent drought here in the Southwest, and this shift could happen relatively abruptly within 10 years.
- **Emissions monitoring and pricing-** future government action will most likely restrict and/or charge for carbon and methane emissions, while possibly offering carbon sequestration pricing.

POSSIBLE ADAPTATION FOR LOCAL FOOD SYSTEMS: Actions to provide food adaptation and resiliency to climate change can include:

- **Create strong systems for multiplying and saving all heirloom seeds, especially drought and heat resistant food crops.** Native Seed/SEARCH is a good example.
- **Seek out traditional knowledge on how to grow plants under difficult conditions and conduct pilots**
- **Develop redundancy and resiliency of water systems needed to support food growing, recognizing that traditional waters may be seriously impacted**
- **Create intensive ecological food growing systems within and around cities that can provide a very high percentage of food needed city-wide, not limited to today's food insecure population**
- **Select perennial plants adapted for heat and drought resistance, using plants from lower elevations, not higher elevations as one example, and do not count on perennial crops that are not likely to adapt**
- **Form a working group to begin serious consideration of the climate and food issue that will be empowered to educate and make recommendations**
- **Work with local farmers and agencies to provide guidance for climate adaptation**
- **Contribute to the *Sustainable Santa Fe Plan*'s implementation for the chapters relevant to food security and adaptation**

Submitted by Louise Pape, Vice-Chair, Sustainable Santa Fe Commission

City of Santa Fe

Agenda

Santa Fe County

Santa Fe City and County
Advisory Council on Food Policy
Thursday January 28, 2010
8:30 to 10:00 a.m.
Angel Depot Conference Room
1222 Siler Road, Santa Fe, NM

CITY CLERK'S OFFICE
DATE 1-19-10 TIME 4:2
SERVED BY Katherine Mar
RECEIVED BY

A. CALL TO ORDER
B. ROLL CALL
C. APPROVAL OF AGENDA
D. APPROVAL OF MINUTES – December 3, 2009
E. COMMUNICATIONS FROM THE FLOOR
F. STAFF COMMUNICATIONS
G. PRESENTATIONS
   1. Sustainable Santa Fe—Louise Pape (20 min.)
H. SUBCOMMITTEE REPORTS
   1. Food Production and Land Use Subcommittee (S. Noss; S. Warshawer; S. Hooper; T. McCarty; J. Lopez)
   2. Assessment Subcommittee (P. Roy, chair; M. Winne; K. Mortimer; C. Rose; T. Rodriguez)
   3. Education (J. Maril)
   4. Resource, Development and Outreach (T. Rodriguez, chair; S. Hooper)
   5. Procurement (T. Rodriguez; P. Roy; S. Shepherd)
I. BUSINESS
   1. Update on Staffing (P. Roy; S. Hooper; S. Warshawer; K. Mortimer)
   2. Update of County Sustainable Development Recommendations (R. Villareal; P. Roy; S. Noss)
   3. Review of Work Plan
J. ITEMS FROM THE CHAIR
K. ITEMS FROM THE COUNCIL
L. ADJOURNMENT

SFC CLERK RECORDED 02/11/2011

Next Meeting: February 25th, 2010

NOTE: All meetings of the council are open to the public. Persons with disabilities in need of accommodations, contact the City Clerk's office at 955-6520, five (5) working days prior to meeting day.