

**Sustainability in Willamette Valley Agriculture:  
Ensuring Equity for Farmers, Workers, and Consumers**

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**Editors in Chief** Alzada Roche and Lauren Henken

## **Abstract**

The purpose of this paper is to identify the main equity issues currently present in the Willamette Valley agriculture system and to develop an equitably sustainable model that addresses all of these issues. This paper assesses the main issues concerning equity in the Willamette Valley by examining the effects of current agricultural practices on farmers, farmworkers and consumers. It combines the practices that seem to be successful in solving these issues in order to create one equitably sustainable model for the Willamette Valley. As a conclusion of our literature review compilation and criticism, our proposed model for an ideal equitably sustainable agricultural system within the Willamette Valley favors small-scale, local, organic, direct marketing approaches to growing and distributing food. We also advocate for the use of government policy to ensure that equity remains a priority. This proposition is supported by the high value placed on the personal rights and well being of farmers, workers, and consumers who are involved in the facilitation of these approaches.

## **Introduction**

The 1987 Brundtland report states that sustainability rests on the principle that we must meet the needs of the present without compromising the ability of future generations to meet their own needs. While this widely accepted definition requires the consideration of lasting environmental aspects of sustainability it fails to encompass a wide range of necessary factors. The criteria for sustainability have since been refined to include not just the environment, but also economics and equity, the so called Three E's of Sustainability. In discussing the equity aspects of sustainability of agriculture in the Willamette Valley, there is significant overlap with environmental and economic viability. In order for agriculture to be equitable in the Willamette Valley, it also needs to be environmentally and economically sustainable, but the opposite is not true. As evidenced by the fact that inequity exists in abundance in systems that are otherwise economically and environmentally sustainable, conscious effort must be exerted in order to make equity a priority.

The purpose of this paper is to evaluate the main equity issues currently present in the Willamette Valley agriculture system and to develop an equitably sustainable model that addresses all of these issues in an attempt to increase the quality of life for those

residing in the region. By focusing on the three levels of participators (producers, laborers and consumers) who all deal with specific equity problems within these food systems, it is found to be evident that all coexisting problems stem from one another. The major issues concerning farmers and producers are identified in this paper as low wages (causing an inability to provide for employees), overall lack of free agency and low position of power within the current market structure. The cyclic effect of these issues creates the equity problems of poor working conditions, pesticide exposure, limited farmworkers' rights, and inadequate wages for Willamette Valley farm laborers. The market that has allowed for the development of these issues causes the problems of unequal food distribution and quality and lack of transparency for the consumers within the food system. As consumers continue to buy into the system they reinforce, the currently implemented agricultural models are not able to equitably support all participators within the system.

In an attempt to break the cycle, this paper evaluates the current agricultural models existing in the Willamette Valley and their affect on the farmers, workers and consumers within this system. Focusing on the social equity aspect of agricultural sustainability, it addresses the main issues for these groups, drawing separate conclusions about what does work in each case. We combine all practices that seem to be successful in order to create one equitably sustainable model for the Willamette Valley.

The Willamette Valley is a fertile growing region that is home to diverse compilation agriculture models. In this paper we define the valley as the watershed of the Willamette River. This is the growing region in western Oregon bordered by Cascade mountain range on the east and Coastal mountain range on the west, the Columbia River to the north and the southern drainage divide of the Umpqua River to the south. This area encompasses the ten counties of Benton, Clackamas, Colombia, Lane, Linn, Marion, Multnomah, Polk, Washington and Yamhill and covers approximately 11,500 square miles (Giombolini et al. 2010).

### **Equity Issues Concerning Farmers**

In the Willamette Valley whether Conventional or Organic, urban or rural, the farmers operating in the Willamette Valley struggle with many of the same issues, encountering common barriers within their practices. As mentioned earlier, farmers,

workers, and consumers are all connected, so what affects one will in turn affect the other two. By examining the power relations existing between the farmer and the corporate market and farmer income security, the repercussions on all participants of the food system can be detected. In an attempt to break away from these detrimental repercussions, a number of farmers turned to alternative agricultural systems for relief. The successes of these farmers informed our model for sustainable agriculture in the Willamette Valley.

### **Power Relations**

While most farmers understand what is ethically right, power dynamics in the current agriculture market make it hard for them to follow these ethics, and at times are able to take away rights by manipulating the standards of the market through means such as legislature. In the article “Constrained Choice and Ethical Dilemmas in Land Management: Environmental Quality and Food Safety in California Agriculture” evidence of this is provided through a study in California researching the ethical dilemmas and limiting factors that producers face when trying to survive in the conventional agriculture system. For example, because options of who to sell crops to has become increasingly limited, acceptable standards have also become limited for how crops should be planted, harvested, and transported (Stuart 2008). Through a mail survey and personal interviews, Stuart found that in order to make a profit producers must often give up free agency of how their farms are run (Stuart 2008). While this paper looked more at the way farmers respond to ethical dilemmas within the market, it demonstrates how farmers must often give up freedom of choice in order to endure the conventional model.

The article “Introduction to Symposium—charting fault lines in US agrifood systems: what can we contribute?” further supports this argument by identifying the issue of decreasing agency of farmers due to market pressures, corporate power, and agriculture legislature as a fault in our current conventional food system. Yet another example of this limited agency of farmers is identified in the article “Local Autonomy and Sustainable Development: Testing import substitution in localizing food systems” by illustrating the fact that farmers constantly struggle with low wages and restricted working conditions (Bellows and Hamm 2001). This makes them more susceptible to the

demands and regulations made by the corporate companies in control.

Within the Willamette Valley, the consolidation and industrialization of agriculture has greatly compromised the freedom of small-scale farmers by increasing land prices and operating costs. Unrestricted growth and development continues to limit free agency by eliminating valuable land resources previously devoted to cultivation (FFF 2008). These dangerous components of the current, conventional agriculture system jeopardize the livelihoods of small, family-run Oregon farms, threatening to decrease their numbers if change is not imposed.

### **Living and Income Security**

The United States was built on the backs of farmers and farmworkers, yet for the past decades they have been unable to generate enough income solely from their farm to maintain a decent standard of living, with a poverty rate among farm households that is above the national average (Conkin 2008). The Department of Agriculture estimated that the average household income for farmers in 2007 was around \$81,588, however, 85.9% of this came from other income sources and/or off-farm employment (Conkin 2008). Although subsidies have added to income levels, many farmers still live without health care or insurance (Anderson et al. 2008). Additionally, it has become harder for smaller farmers to compete with large agro-businesses who not only have control over the market policies, but also are able to produce substantially more product at significantly lower production costs. To provide perspective, in 2002 almost a quarter of the total global processed food sales were controlled by the ten largest food companies (Burns et al. 2007).

Agriculture practices in the Willamette Valley have been altered greatly in the last twenty-five years. Until the 1950s and 60s, much of the food used to sustain its inhabitants was grown directly in the Willamette River Basin or in surrounding areas. Recently, the dynamics of the global marketplace have centralized food distribution elsewhere, de-localizing the regional food system (Armstrong 2008). As a consequence of this corporate domination of the agriculture system characterized by more specialization, larger farms, and fewer farmers, thus, small farmers have given up farming or attempted to fit a specific market niche (Conkin 2008). For example, a farmer might try to become organically certified or sell only locally in order to stay competitive.

As one farmer explained about her choice to sell to farmers markets, selling farm products at the market brings in extra money, which is important enough to justify the extra effort (Alkon 2008). Although farmers markets are criticized because they most often provide products only available to a select audience, they do add a sense of beauty to a neighborhood, build a connection between the consumer and the producer, and provide an alternative form of income for farmers. Regardless, as the number of Oregon farms, especially small farms, begin to rapidly decrease, it becomes clear that the sustainability of farm livelihoods is in serious question (Bellows and Hamm 2001).

### **Initiatives and Benefits for Farmers Using Alternative Methods**

As a means to combat and overcome the concerns of power relations and job security, certain farmers in the Willamette Valley have been able to assert their agency in the current agriculture system by turning to alternative agriculture methods; principally to smaller scale farms, organic inputs, and direct marketing. It is these alternative components of agriculture that allow farmers to address their own equity issues and reap greater benefits from their labor.

#### **Small-Scale**

In attempts of free themselves from the corporate giants that govern farm operations, farmers have turned to farming on a smaller scale, thus allowing them to gain back some of their agency. In contrast to large-scale farms, which are accountable to huge national and international companies, smaller scale agriculture allows farmers to have more control over which crops to grow, what the inputs should be, the price of their products, and what standards they want to uphold. Additionally, farmers who decide to farm on a smaller scale have a more intimate relationship with their workers and their land; consequently, the treatment of both the workers and the land is better.

#### **Organic Farming**

In addition to the advantages of smaller scale farming, farmers also benefit from choosing to farm organically. Organic farming allows farmers to have a deeper connection with their land, manage their land without fear of ethical dilemmas, provide better working conditions for their workers, and consequently live more fulfilled and happier lives (Shreck et al. 2006). A study done by Sullivan et al. comparing the lives and livelihoods of conventional and organic farmers concluded that farmers who chose to

farm organically had a greater appreciation for the land and increased awareness of their relationship to nature (Sullivan et al. 1996). Furthermore, their study revealed that conventional farmers experience greater stress in their daily lives; while the organic farmers were reported to be more satisfied with their lives, have a stronger connection to their community, and a greater focus on living an ethical life (Sullivan et al. 1996). Another study of the social conditions in organic agriculture resolved that on organic farms working conditions were better and workers' rights more stringently upheld, and also that organic farmers had a greater connection with their land and commitment to farming practices that were better for both the land and the workers (Shreck et al. 2006).

### **Direct Marketing**

As discussed previously, one of the major issues with the current agriculture system is the lack of fair and livable wages for both farmers and farmworkers. According to the USDA, for every dollar spent on produce at a grocery store, farmers receive only around 19 to 20 cents because much of the profit is lost to intermediaries, the transportation of the product, and the to retailers (Grace et al. 2005). In order to gain back a greater portion of their profit, farmers have turned to direct marketing as an alternative. According to an article in the Oregon's Farmers Market Association, farmers receive the full retail price for their produce and crops, which is five times as much as they would make if they sold through a retailer (Grace et al. 2005). Because of this increase in revenue, farmers are able to run their farms as profitable businesses, allowing farmers to pass on the benefits to their employees by providing better healthcare, paying them a livable wage, and improving housing, thus raising the standard of living and equity for both the farmer and the farm worker. Direct marketing and farmers markets are especially important to small-scale farm operations as they act as a lifeline by shifting power back to the farmers and by providing an economic niche that enables them to compete with the bigger farms and corporations that dominate the current agriculture system (Grace et al. 2005).

Through choosing to farm small-scale organic farms and engage in direct marketing, farmers are able to reassert their agency over farm operations, shift power dynamics away from the corporate dominated agriculture system, and improve not only their quality of life, but that of their workers as well.

### **Equity Issues Concerning Farm Workers**

When considering sustainability in terms of equity, some of the greatest concerns are the working conditions, livelihood, and health of the farm workers. With a fatality rate of ten times that of industrial occupations, agriculture and horticulture are considered the most dangerous jobs globally. Focus on the accomplishments of modern agriculture has shifted attention away from the externalities such success has created at great cost to farm worker's health and welfare (Hines and Pretty 2001). These issues are found across all forms of farming and are especially pertinent to immigrant workers, who—as of 2007—made up about 78% of agricultural farmworkers in the United States (Abernathy et al. 2008).

### **Problems Associated with Pesticide Use**

The use of synthetic inputs is one of the greatest equity issues concerning farm workers. As Jaime Arredondo, a manager at the Farmworkers Housing Development Plan, described, even though pesticide regulation—like the Oregon Pesticide Control Law—exists for the Willamette Valley, one of the major issues with pesticides is the lack of enforcement of these regulations (Jaime Arredondo pers. comm.). Having inputs such as synthetic and chemical fertilizers, pesticides, and herbicides is considered essential to the success of conventional farming in the Willamette Valley; yet studies have shown that despite their benefits on the farm, they have drastic negative health effects for farm workers. A study conducted by the United Nations estimated that about 2 million poisonings and 10,000 deaths occur each year from pesticides (Horrigan et al. 2002). The most common illnesses for the farmworkers are dermatological symptoms or signs, followed by those related to the nervous, gastrointestinal, ocular, and respiratory systems (Das et al. 2001). Due to the lack of education about these harmful inputs, families of farm workers are also exposed to these fertilizers, pesticides, and herbicides when the farm workers return home. Such parental or other household member exposure to pesticides is associated with childhood leukemia (Lu et al. 2000). Pesticides also contaminate the air and water supplies of a community, making pesticides a health hazard for anyone living in proximity to a conventional farm.

One of the main reasons this happens is due to the lack of farm worker education about the use of inputs as well as the adverse health effects of the use of pesticides,

herbicides and fertilizers. Farmworkers are often not told what pesticides are being applied to the fields, and even if they have access to the names of these additives, few farmworkers recognize the names of any but the most common chemicals, like Roundup (Albrecht et al. 2007).

These serious health problems lead to questions as to why danger to the workers persists when pesticides are known to be so damaging. One answer is that many agricultural workers are U.S. immigrants and as such, many of them do not know their rights or have limited access to their rights because of language or other barriers. Additionally, employers frequently do not offer the same rights to undocumented or seasonal migrant workers because they are unable to have a voice in the legal system. Often these workers are subject to poor treatment, exploitation, unequal pay, health risks, and lack of workplace education. Furthermore, many work in environments that violate safety and health standards, have no access to medical care, live in substandard housing, and have unreliable access to transportation. In this already unstable situation, workers fear that if they complain they will lose their jobs and their ability to support themselves and their families.

### **Existing Policy**

Although concern from farmworkers and their advocates about the harmful use of pesticides has been around for a while, the United States federal government has done little to create policies for protection and regulation. The most significant federal regulation covering pesticide exposure is the Environmental Protection Agency's Worker Protection Standard (WPS), under the Federal Insecticide, Fungicide, and Rodenticide Act. In addition to a mandatory employee training, the WPS requires that the hazards of pesticides, how to properly use them, and other safety concerns should be posted in the center of the workplace (Albrecht et al. 2007). Although in theory the WPS would significantly ameliorate conditions for farmworkers, studies have found that the WPS is not always followed. It is estimated that worker protection law violations by employers contributed to 41% of pesticide poisonings in California, including failure to provide useable safety equipment, absence of washing and decontamination facilities, and lack of field workers' access to pesticide training or information (Abernathy et al. 2008). This statistic may be an underestimate due to the increase of undocumented workers who do

not feel comfortable discussing such rights violations for fear they will be deported or incarcerated.

Farmworkers on organic farms may not be dealing with pesticides and herbicides, but are still subject to other health hazards. Under the federal Worker Protection Standards farms are also supposed to provide potable drinking water, hand washing stations, and toilets; however, as Abernathy et al. found in their study, these necessities are often not provided. When water was provided, they found it was sometimes not potable, but as workers had no alternative, they drank it anyway (Abernathy et al. 2008). These rights violations exist in conventional, organic, large- and small- scale operations. These failures to adhere to federal policies exhibit that issues of equity exist in all forms of agriculture and that in order to have an equitably sustainable agriculture system, more stringent policies and punishments need to be put in place to protect the health and rights of farmworkers.

### **Language and Cultural Barriers**

This concern for the protection of farmworkers rights and human health standards is compounded by the fact that an increasing number of workers are immigrants and indigenous who speak an indigenous dialect as their primary language. Lack of proficiency in English places workers in the dark about knowing and demanding their rights; consequently, they are more likely to accept substandard working conditions, wages, and housing conditions (Abernathy et al. 2008). Often these workers are subject to poor treatment, exploitation, unequal pay, and are exposed to greater health risks. For instance, a study conducted about migrant workers found that they were often exposed to pesticides without protective gear, transported in a dangerous manner to worksites, rarely or never given access to a washroom on the job, and worked long hours for at or below minimum wage (Fairey et al. 2008). Additionally, most migrant and immigrant farm workers fear that if they complain they will lose their jobs and lose their ability to support themselves and their family, and for this reason do not challenge the current system.

### **Farming Organically**

Organic agriculture is considered a solution to the problems associated with pesticide use. Organic production, as the name would suggest, is a system characterized by a compliance with organic standards. To be considered organic, and labeled as such,

farmers must go through USDA certification process and prove that they use no synthetic fertilizers, pesticides or herbicides and do not cultivate genetically modified organisms. In the case of livestock, the animals must be raised on organic pasture or organic feed without the use of antibiotics or growth hormones. Many organic farmers also practice other methods of sustainable agriculture such as crop rotation, but these are not required for USDA certification. Food is distributed through a combination of sales at supermarkets and direct marketing through farmers markets. By utilizing organic agriculture as a means of pesticide activism the organic producers promote more sustainable practices, demonstrate economic gains, show how viable it is to have less toxic pest management, and help stimulate more research in order to improve the development of less-toxic agricultural production methods (Harrison 2008).

Although it can be argued that farms that are less reliant on intensive inputs, or use organic inputs would not engender equally severe health violations, this is not always the case, especially if the farms are of a larger scale. Labor conditions are significantly improved by the absence of toxic pesticides, but there is increased need for difficult manual labor like hand weeding, which accounts for more serious workplace injuries than does pesticide exposure (Harrison 2008; Shreck et al. 2005; Getz et al. 2008). Through their study and comparison of the mental and physical effects of conventional and organic farms, Cross et al. concluded that in terms of farm labor and physical health, farmworkers physical health was comparable between the two forms. The farmers working on the conventional farm were exposed to more chemicals; however, those on the organic farm were subject to more intensive labor (Cross et al. 2007). Conventional, input-intensive, large-scale farms have been criticized for farm worker conditions, and organic praised. However, when considering large-scale farms, organic may not be as sustainable as it first appears, especially because inputs have evolved to be less harmful and safety information about inputs and machinery is more widely known. Thus, on a large scale, the physical exhaustion of organic may not outweigh the health concerns of conventional. With this in mind, we propose that small-scale organic farms present the best option for farmworkers in the Willamette Valley.

### **Drawbacks of Large Scale Production**

As alluded to in the above section, large scale, intensively profit driven

agriculture can be the cause of abuse to the workers in the fields. The push for greater efficiency and the detachment that it requires of the farmer create a combination of forces contrary to the farm worker's benefit. When the farmer is away from the fields, he creates a separation between himself and his workers; with farm labor beginning to be more streamline, the workers become just another cog in the system that can easily be replaced.

In the name of efficiency, many farmers are now outsourcing the hiring of workers to Farm Labor Contractors (FLCs) who act as middlemen, recruiting and negotiating with farm laborers (Krissman 1995). This results in a myriad of additional problems for the workers. According to Getz et al., workers contracted through FLCs make an average of only \$5,000 per year, \$3,500 dollars less than those hired directly by growers (Getz et al. 2008). In addition to driving down wages, FLCs allow corporations not to be responsible to the workers, prevent farmworkers from organizing, and promote the use of underpaid undocumented immigrants to fill jobs (Krissman 1995). FLCs have been the cause of increased poverty and income inequality in rural areas, increasingly poor working conditions, waves of new undocumented worker immigration, a weakening of the farm labor movement, and have demonstrated the profitability of exploitation of undocumented immigrants (Krissman 1995). Power is thus shifted even further from the workers, reducing their ability to influence and improve conditions.

### **Benefits of Alternative Agriculture Models**

Alternative agricultural models address farm workers' rights issues by viewing agriculture holistically. In alternative models that work at a smaller scale, workers have access to better conditions because of their more intimate relationship with the farmer. In the best of these situations, wages are at or above minimum requirements, workers do not face health concerns from chemical exposure, workers are respected, and their working hours are not exploited. Shreck et al. in their study of the social conditions in organic agriculture found that working conditions and rights are better maintained for the workers. In order to retain trained workers, organic farmers may make higher wages and benefits available, and the agricultural practices favored by small scale organic farmers, specifically multi-cropping patterns, offer year round employment, alleviating job insecurity (Shreck et al. 2005). Furthermore, a study conducted by J. Guthman found, in her extensive analysis of California's organic agriculture sector, that the farms with

higher than average wages and benefits tend to be all organic (Guthman 2004). Organic farming, as an alternative to conventional agriculture, has begun to successfully address the rights of farm workers in order to make their working and living conditions better, however, we fear there is little that concretely guarantees better labor practices among small scale and organic farmers.

In addition to the physical health concerns of farmworkers, their mental and emotional states must also be called into question if equity issues are to be fully addressed. Although several studies have found that farmworkers often feel disrespected, discriminated, and disregarded, these feelings have not been greatly correlated with the use of intensive inputs as one might believe. Cross et al.—through their study of the emotional and physical effects on farmworkers from conventional (defined by synthetic pesticide use, mono-cropping, and large-scale) and organic (defined by natural pesticide use, diverse cropping, and a range of scales) farms—found that 23.7% of conventional farmworkers showed signs of mild clinical depression, while 14.7% of farm workers on organic farms had that same state of mind (Cross et al. 2007). What is interesting to note is that with further investigation, Cross et al. determined that it was not the intensive use of pesticides—which is an aspect of conventional agriculture that has continually attracted much negative attention—that caused this state, but rather that emotional health was strongly associated with the number of tasks that a worker performed. Those who performed a greater number of tasks felt a greater sense of happiness. Because fewer workers are hired on small-scale organic farms, the variety of tasks each worker performs is greater. In theory, this could create a more fulfilling work atmosphere for Willamette Valley farmworkers.

Wages are another reason for favoring small-scale organic farms. Oregon is one of few states that offer more than the federal rate, with a minimum wage of \$8.40 (US Department of Labor 2010). Still, offering a living wage requires that we more than double our already high minimum wage. Individuals in the lower class have had to intensify production to keep up with capitalist expansion and to combat population pressure on limited resources. All of these factors combined give these individuals a slim chance, if any, at building any sort of financial stability (Gutbertlet 1999). Because farmers struggle for their own living, it is difficult to assign them the blame for similarly

poor wages for farmworkers; this is a potential area where the government could step in to raise minimum wage or provide some of the benefits, such as subsidized health insurance, housing, or food, that the farmers cannot.

Though large-scale organic farms often have higher profits than small scale ones, the money does not seem to make its way to the laborer. One would assume that the price premium paid for organic products would allow for higher wages on large organic farms than on similarly sized conventional ones, but in comparison to farm workers on conventional farms, those working on large-scale organic farms also indicate that their wages are not much, if at all, higher (Guthman 2004; Shreck et al. 2005). Large organic companies have started to outsource their crop production to poorer nations like Mexico, further decreasing wage (Guthman 2004). This evidence seems to point out that farm workers on large scale organic and conventional farms appear to experience little difference in terms of working wage, but there is not much reported on the working wages of smaller-scale or local organic productions, which could in theory be significantly different. The idea incorporated by design within local agriculture systems where small cooperative-oriented styles of farming that include farmers themselves as the primary farm worker is that with only a few extra laborers are hired when needed, overhead costs are reduced (Calo et al. 2005). This cuts out many of the middlemen, increasing the profits of the remaining participators on the totem pole (Gomez Tovar et al. 2005).

Willamette Valley farmworkers have responded to the aforementioned issues by organizing. Pineros y Campesinos Unidos del Noreste (PCUN) is an organization that was founded in April of 1985 in the Willamette Valley as a response to a series of immigration raids and a serious lack of farmworkers rights in the Willamette Valley. PCUN has helped legalize over 1300 farmworkers and them of their rights. They have also helped farmworkers organize themselves and they believe that through collective bargaining they are able to combat the problems of equity that exist throughout the Willamette Valley. They have taken advantage of collective bargaining power to help farmworkers sign contracts with growers on issues such as seniority, grievance procedures, overtime, paid breaks, and union recognition. These new contracts have lead to changes in the way farmworkers are being treated and serve as an example of what can

be done by empowering the farmworkers (PCUN 2010).

### **Equity Issues Concerning Consumers**

In the Willamette Valley's current market system, food equity directly correlates to price, quality, transparency, and accessibility of food at stores, markets or through the programs that distribute it. The goal is to have quality food accessible to a broad range of people, in fact, to all people, as consumers. Power distribution is key in determining these factors; whether power is concentrated in the hands of corporations or distributed more evenly throughout the people in the food system has repercussions on the ability of consumers to alter the system to suit their needs. Wages, working conditions, product quality, and adaptation of the system to various situations all depend on the power structure inherent in the organization of an agricultural system. Because the agricultural industry is so consolidated, most of the food is distributed within large scale markets which leads to an unequal distribution of food and the majority of the land employed for agriculture is used by large scale conventional farming (Horrigan et al. 2002). Working within a capitalist market system, economic efficiency requires that power be centralized in order to produce a more affordable product. Conventional, industrial organic, small-scale organic and local agriculture systems each take a different approach to feeding the population, with varying results based on the distribution of power within the system and accessibility of the product. Equity is a matter of perspective and consequently makes it difficult to judge what methods are most effective in meeting the goal of social sustainability. Often times the qualities that make a system equitable for one group of people have adverse effects on the equitability of that same system from another perspective.

### **Access to Quality Food**

In the conventional system, the benefit of wide availability of food for consumers' contrasts with the detriment of the lack of influence they have over the quality distribution of the product (Dixon et al. 2007). This structure allows the few corporations to produce low quality food at cheap prices, which distorts the market for consumers, especially those of lower socioeconomic status, because they can afford cheap food, which is often highly processed and unhealthy. Small-scale organic farmers have to charge higher prices and compromise distributional equity in order to keep their

operations economically viable. Consequently, these quality foods are not accessible to food insecure populations, magnifying existing inequities in local consumption (Bellows and Hamm 2001). The Willamette Valley has the potential to produce large quantities of healthy local food year round (Giombolini et al. 2010). However the current market creates unequal distribution of this food because local producers target the affluent, who already possess the luxury of food security. Industrial organic farmers compromise distributional equity somewhat less, but give up even distribution of power to the corporations in order to make more money.

Another issue with industrial organic is its growing popularity because it actually restricts the model's ability to produce food in an equitability sustainable manner (DeLind 2006). DeLind discusses the movement has become part of the status quo and has lost its ability to provide concrete benefits to the agricultural system. Local agriculture has evolved to be modifiable to a community's needs through more dispersed power, but is often times exclusive of lower income groups because of its distributional tactics. If a food system is to benefit the Willamette Valley community as whole rather than specific producers such as large corporations, equal distribution, transparency, quality and accessibility, in terms of both rural and urban, must be considered and evenly dispersed.

Distribution of food within an equitably sustainable agricultural model in the Willamette Valley combines local and organic agriculture methods to feed the population. In successful local food systems, food security is a key goal that not only focuses on traditional, individual and house-hold food needs, but also addresses the need for food access within a community context, especially for low-income households (Mortan et al. 2007). Equitable food distribution ensures that all people, despite their socio-economic level, obtain ample nutritious food for their lives. In order to ensure that the residents of the Willamette Valley have access to an ample amount of quality food, we propose that the agriculture system be organic, local, directly marketed, and include government funded programs to increase accessibility for lower socio-economic groups to quality food, instead of being forced to eat low quality, unhealthy foods.

### **Direct Marketing**

Direct marketing is used in the framework of Community Supported Agriculture (CSA), Farmers Markets, and Farm to School (FTS) initiatives as way of encouraging

direct relationships between the farmer and the consumer. Direct marketing, through the framework of CSAs, originated in Japan in the 1960s as a movement to reconnect people with the land and to empower farmers to become self-sufficient by marketing their food directly to the people (Star et al. 2003). Direct marketing is beneficial to the community because it provides fresh products to low-income communities that would otherwise not be able to purchase these goods, consequently direct marketing could be used to more equally distribute food throughout the Willamette Valley. This marketing structure would be accomplished in the Valley through initiatives and government regulated programs and policies. The success of direct marketing programs is exemplified through the Farmers Market Nutrition Program (FMNP)—which offers benefits such as vouchers for farmers markets produce—and through Community Supported Agriculture (CSA) programs, which encourage people in the Women, Infant and Children program (WIC) and low-income elderly to eat healthier foods. (Grace et al. 2005). This benefit of increased access to quality food and affordable is provided in addition to the money that is obtained for food stamps. Through programs such as this, communities in need are targeted directly and are encouraged to purchase healthier goods, or are able to produce their own food, increasing equity in the community.

### **Transparency**

The system must be transparent in regards to where food originates and what kind of processing it has undergone before it is consumed (Riches 1998). The journal article “Does the World Need U.S. Farmers Even If Americans Don’t” discusses how the disconnect between the production of food and the U.S. consumer has created an agriculture system that values food as a privilege rather than a right. Creating a government-regulated system of labeling products would allow consumers to decrease this detachment by knowing exactly where and under what conditions their food was produced. This increase in transparency would also help establish a direct market food system with a greater focus on the community in the Willamette Valley. In local food systems, food is seen as a human right, rather than a privilege. Localization and community-based agriculture can help to attain sustainability within a rights based food system by building relationships between farmer and consumers in addition to creating networks of mutual aid and trust, which are key components of community resilience

(Anderson 2008; Riches 1998; Van Esterik 1999; Winter 2010).

The Willamette Valley is a profitable agriculture region that also includes three large urban areas: Salem, Eugene, and Portland. Food insecurity in these urban settings differs from rural areas in several ways and must be addressed through different solutions and regulations. Although it may appear that the availability of food is endless in highly populated areas through the numerous supermarkets, the poorer populations of urban communities are oftentimes unable to access healthy and affordable food (Henderickson et al. 2008). This inaccessibility is a direct result of limited funds but also from the locality of supermarkets. In urban areas, stores selling locally-sourced, organic foods are often situated in the more affluent and wealthy suburbs, thus lower-income communities with no choice but to buy their food from establishments selling inferior, unhealthier products (Dixon et al. 2007). Direct marketing from rural to urban within the Willamette Valley will address these issues while enhancing a community-based structure of a local food system. Urban community growing coupled with importation of food from local farmers is the model that best incorporates this direct marketing structure and helps ensure food equity by designing methods that target lower income social classes with poor nutritional intake and give them a way to access healthy and fresh produce.

Small operations that produce a variety of goods have more diverse sources of income, which provide growers with a form of security in the face of fluctuating markets and alternating climate patterns in urban areas (Anderson 2008). For example, City Fresh has aroused a growth in urban agriculture through the increase of fresh fruit and vegetable consumption. Overall, the percentage of participants eating five or more servings of fruits and vegetables increased from 36% to 56%, with the increase being of greater magnitude for low-income groups (Ohri-Vachaspati et al. 2009). These community supported agriculture systems increase dietary quality and food security while providing places of community interaction and opportunities to educate individuals on means of food production, develop necessary job skills, generate food-related business, increase agriculture literacy, and create links to nearby, more rural food-distributing establishments within the community.

### **Food Distribution**

When evaluating food distribution in agriculture models one can identify power

distribution as the key factor that determines how equitable a food system is. A direct marketing system that provides food produced through organic and small-scale methods would distribute power within the local community and combat food insecurity to help establish food equity within the Willamette Valley. This would be done through government regulations and policies that help to create transparency in the food system while connecting local rural farmers with rural and urban consumers. This system with government regulations will ensure that food is distributed throughout socioeconomic statuses, providing healthy products to all consumers and establishing food security.

In a study done by the USDA comparing conventionally grown and organically grown produce, 73 percent of conventionally grown produce had at least one pesticide residue, while only 23 percent of organically grown samples of the same crops contained residues. (Scialabba and Hattam 2002). Furthermore, the study concluded that organic produce was nine times less likely to have pesticide residue on it than did its conventionally produced counterparts. Finally, tests found residues in 79 percent of conventionally grown samples and in 27 percent of organically grown samples, with multiple residues six times as common in the former” (Scialabba and Hattam 2002). Because organic farming does not use synthetic or chemical inputs the health effects of pesticides are greatly minimized. Farm workers do not have to work with the pesticides, the farms do not contribute to pesticide drift, and the residues of pesticides reaching grocery store shelves are greatly minimized, reducing health effects for the public.

### **Conclusion**

In conclusion of our literature review compilation and criticism, our proposed model for an ideal equitably sustainable agricultural system within the Willamette Valley favors small-scale, local, organic, direct marketing approaches to growing and distributing food. This proposition is supported by the high equitable value placed on the personal rights and well-being of farmers, workers and consumers who are involved in the facilitation of these approaches.

In order for this system to be initiated, Willamette Valley will work to produce as much of its food locally as possible. This will be accomplished through small-scale organic farming practices that create a standard within the market that allows for all consumers to have access to healthy quality food that is ethically produced. In order to

establish equal access, there will be a direct marketing system that works to cut out the middleman in food distribution and give the power directly back to the farmers, the workers they hire, and consumers, thus reinforcing a sense of community between the three.

In order for this to work, our model will incorporate measures that increase transparency within the system, such as mandatory labeling. This will give the consumer direct information about what is in the products they consume and based on this information their purchasing power can influence how and what the producers create. The farmers will be able to keep up with these demands through government funding, benefiting from financial aid during the three-year period required to gain organic certification.

Through government financial assistance and an establishment of all local, small-scale organic farming practices sold through a direct marketing system, the Willamette Valley will have a sharp increase in equitable practices with our proposed agricultural model. As initiatives are being taken to create equity within individual sectors of the system, these initiatives may be detracting from other sectors as a trade-off. However, we do believe the model we are proposing will best address the main issues involving equity while still focusing on all participants in the system to promote a more sustainable food system.

As our model proposes a transition to direct marketing and a redirection to more local food sourcing, we recognize that the crops currently grown within the Willamette River Watershed would need to be modified. Presently the two largest crops grown in the Willamette Valley, Christmas trees and grass seed, are not only exported out of state, but also are not edible (Giombolini et al. 2010). Thus, under the current production system the Willamette Valley could not feed itself. If the components of our model were to be implemented, the land and resources used for the Christmas tree and grass seed crops would have to be reallocated to edible crops and produce. If all the arable land currently used for Christmas trees and grass seed crops were converted to grains, there would be enough grain produced to supply the Willamette Valley with the USDA recommended caloric intake (Giombolini et al. 2010).

We feel that an organic, direct marketed, local and small scale system of food

production is the best choice available for solving equity issues; however, in order to create conditions in which equity is a priority on par with economics and environment, additional policy implementation would be required. Policies that encourage the elimination of pesticide use, support farmers in their transition to organic, support small farmers, encourage labeling practices that would increase transparency throughout the market, and ensure the access to and affordability of food would need to be created, implemented, and enforced if our model is to be effective and sustainable.

Mendocino County's 2004 ban on GMOs is an example of how localities have overridden economic interests in order to pass legislation that favors equity in their agricultural system. Despite heavy opposition from profitable GM companies, citizens succeeded in voting to ban the propagation of all genetically modified organisms within the county, maximizing local control and farmers rights (Walsh-Dilley 2009). Through a highly localized campaign, citizens of Mendocino County demonstrated their support of equity even though it required tradeoffs in economy. In the Willamette Valley, similar grass-roots campaigning as well as top down legislation are required to guarantee full support for all participants in the agricultural system.

### Works Cited

Abernathy, M., Cuilwk, N., Davis, S., Farquhar, S., Samples, J., Shadeh, N., & Ventura, S. (2008). Promoting the Occupational Health of Indigenous Farmworkers. *Journal of Immigrant Minority Health*, 10, 269-280.

Alkon, A. (2008). Paradise or pavement: the social constructions of the environment in two urban farmers' markets and their implications for environmental justice and sustainability. *Local Environment*, 13, 271-289

Armstrong, Dan. "Relocalizing Eden." *Mud City Press*. Web. 05 Dec. 2010. <<http://www.mudcitypress.com/mudedden.html>>.

Anderson, M.D. (2008). Rights-based food systems and the goals of food systems reform. *Agriculture and Human Values* 25 (4): 593-608.

Bellows, Anne C., and Michael W. Hamm. "Local Autonomy and Sustainable Development: Testing Important Substitution in More Localized Food Systems." *Agriculture and Human Values* 18.3 (2004): 271-84.

Burns, C., Carlisle, R., Dixon, J., Donati, K., Friel, S., & Omwega, A. M. (2007). The Health Equity Dimensions of Urban Food Systems. *Journal of Urban Health: Bulletin of the New York Academy of Medicine*, 84, 118-129.

Calo, M. and T. Wise. 2005. Revaluing peasant coffee production: organic and fair trademarkets in Mexico. *Global Development and Environment Institute* <http://ase.tufts.edu/gdae/Pubs/rp/RevaluingCoffee05.pdf> (accessed Nov 5, 2010).

Conkin, P. K. (2008). A Revolution Down on the Farm: The Transformation of American Agriculture Since 1929. *University Press of Kentucky*.

Cross, p., Edward, R. T., Edward-Jones, G., & Hounsome, B. (2007).

Comparative assessment of migrant farm worker health in conventional and organic horticulture systems in the United Kingdom. *Elsevier*, 391, 55-65.

Das, Rupalsi, Andrea Steege, Sherry Baron, John Beckman, and Robert Harrison. "Pesticide-related Illness among Migrant Farm Workers in the United States." *Journal of Environmental and Occupational Health* 4th ser. 7 (2001): 303-12. *JSTOR*. Web. 6 Nov. 2010.

Delind, Laura B. "Of Bodies, Place, and Culture: Re-Situating Local Food." *Journal of Agricultural and Environmental Ethics* 19.2 (2006): 121-46. Print.

Dixon, J., A.M. Omwega, S. Friel, C. Burns, K. Donati, and R. Carlisle. 2007. The healthy equity dimensions of urban food systems. *Journal of Urban Health* 84 (1): 118-129.

Fairey, David, Christina Hanson, Glen MacInnes, Arlene Tigar McLaren, Gerardo Otero, Kerry Preibisch, and Mark Thompson. "Cultivating Farmworker Rights: Ending the Exploitation of Immigrant and Migrant Farmworkers in BC." *Economic Security Report* (2008): 1-63 Web.

Flocks, J., P. Monaghan, S. Albrecht, and A. Bahena. 2007. Florida farmworkers' perceptions and lay knowledge of occupational pesticides. *Journal of Community Health* 32 (3): 181-194.

Getz, C. M. 2003. Transnational linkages, social capital and sustainable livelihood security : organic agriculture in Baja, California. PhD diss, University of California, Berkeley Department of Sociology.

Giombliini, Katy J., Kimberlee J. Chambers, Sheridan A. Schegel, and Jonnie B. Dunne. "Testing the Local Reality: Does the Willamette Valley Growing Region Produce Enough to Meet the Needs of the Local Population? A Comparison of Agriculture

Production and Recommended Dietary Requirements." *Agriculture and Human Values*

Gomez, T., L. Martin, M. Angel, G. Cruz, and T. Mutersbaugh. 2005. Certified Organic Agriculture in Mexico: Market Connections and Certification Practices in Large and Small Producers. *Journal of Rural Studies* 21(4): 461-474.

Grace Christine, Grace Thomas, Becker Nancy, and Lyden Judy. "Barriers to Using Urban Farmers' Market: An Investigation of food Stamps Clients' Perception." *Oregonfarmersmarket*. Oregon Farmers' Market Association. Oct 2005. Web. 8 Nov 2010.

Gutberlet, J. 1999. Rural development and social exclusion: a case study of sustainability and distributive issues in Brazil. *Australian Geographer* 30 (2): 221-237.

Guthman, Julie. *Agrarian Dreams : The Paradox of Organic Farming in California*. Berkeley: University of California Press, 2004a.

Harrison, Jill, and Steven A. Wolf. "Introduction to Symposium—charting Fault Lines in US Agrifood Systems: What Can We Contribute?" *Agriculture and Human Values* 25.2 (2008): 147-49. Print.

Hattam, C. and Nadia Sciaballa, ed. *Organic Agriculture, Environment, and Food Security*. Rome: Food and Agriculture Organization of the UN, 2002.

Hendrickson, Mary K., Harvey S. James, and William D. Heffernan. "Does The World Need U.S. Farmers Even If Americans Don't?" *Journal of Agricultural and Environmental Ethics* 21.4 (2008): 311-28.

Hines, R. & Pretty, J. (2001) Reducing Food Poverty with Sustainable Agriculture: A Summary of New Evidence. Final Report form the "SAFE-World."

"History of PCUN | PCUN Oregon's Farmworker Union." *PCUN Oregon's Farmworker Union | Pinos Y Campesinos Unidos Del Noroeste • Northwest Treeplanters and Farmworkers United*. Web. 05 Dec. 2010. <<http://www.pcun.org/pcun/history-pcun>>.

Horrigan, Leo, Robert S. Lawrence, and Polly Walker. "How Sustainable Agriculture Can Address the Environmental and Human Health Harms of Industrial Agriculture." *Environmental Health Perspectives*. 110.5 (2002): 445-456. Print.

Jaime Arredondo, email message to Marco Fiallo, December 3, 2010.

"Oregon Revised Statutes-2009 Edition." Oregon State Legislature. Accessed December,3 2010. <http://landru.leg.state.or.us/ors/634.html>.

Keeble, Brian. "The Brundtland Report: 'Our Common Future'" *Medicine, Conflict and Survival* 4.1 (1988): 17-25. Print.

Krissman, Fred. "Farm Labor Contractors: The Processors of New Immigrant Labor from Mexico for Californian Agribusiness " *Agriculture and Human Values* 12.4 (1995): 18-46. Print.

Lu, C., Richard A. Fenske, Nancy J. Simcox, and David Kalman. "Pesticide Exposure of Children in an Agricultural Community: Evidence of Household Proximity to Farmland and Take Home Exposure Pathways." *Environmental Research* 84.3 (2000): 290-302. *SpringerLink*. Web. 15 Oct. 2010.

Morton, L.W., E. A. Bitto, M.J. Oakland, and M. Sand. 2007. Accessing food resources: rural and urban patterns of giving and getting food. *Agriculture and Human Values* 25 (1): 107-119.

Ohri-Vachaspati, P., B. Masi, M. Taggart, J. Konen, and J. Kerrigan. "City Fresh: A Local Collaboration for Food Equity." *Journal of Extension* (2009): 1-11.

Riches, G. 1998. Advancing the human right to food in Canada: social policy and the politics of hunger, welfare, and food security. *Agriculture and Human Values* 16 (1) 203-211.

Shreck, Aimee, Christy Getz, Gail Feenstra. 2005. Social Sustainability, Farm Labor, and Organic Agriculture: Findings from an Exploratory Analysis. *Agriculture and Human Values* 23(4): 439.

Starr, Amory, Adrian Card, Carolyn Benepe, Garry Auld, Dennis Lamm, Ken Smith and Karen Wilken. "Sustaining Local Agriculture: Barriers and Opportunities to Direct Marketing between Farms and Restaurants in Colorado." *Agriculture and Human Values*. 20.3 (2003): 301-321. Print.

Stuart, D. 2008. Constrained choice and ethical dilemmas in land management: environmental quality and food safety in California agriculture. *Journal of Agriculture and Environmental Ethics* 22 (1): 53-71

Van Esterik, P. 1999. Right to food; right to feed; right to be fed. The intersection of women's rights and the right to food. *Agriculture and Human Values* 16: 225-232.

Winter, L. 2010. Cultivating farmers' rights: reconciling food security, indigenous agriculture, and TRIPS. *Vanderbilt Journal of Transnational Law* 43 (1): 223-254.