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# Agricultural land reform policy in western Ukraine : the influence of environmental history and ethics

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## **ABSTRACT**

### **AGRICULTURAL LAND REFORM POLICY IN WESTERN UKRAINE: THE INFLUENCE OF ENVIRONMENTAL HISTORY AND ETHICS**

by  
**Andrew B. Wowk**

Agricultural land privatization is an important environmental and economic policy within Ukraine, which is transitioning to a market-based economy. This thesis studied the influence of bioregional environmental history and environmental ethics on land privatization in Western Ukraine, within Lviv oblast, through historical research and field research of private farmers.

Historical research showed that due to its environmental history, the study area was particularly receptive to land privatization after Ukraine's independence in 1991. Field research indicated that farmers in the study area generally see private ownership of land as better for humans and the environment than collective land ownership. The farmers also displayed attitudes towards the land consistent with traditional Ukrainian ethical attitudes toward nature. Other findings were generally high levels of environmental awareness among private farmers in the study area, support for more-widespread organic farming, and the existence of regional government education policies which strive to encourage sustainable farming techniques.

**AGRICULTURAL LAND REFORM POLICY IN WESTERN UKRAINE:  
THE INFLUENCE OF ENVIRONMENTAL HISTORY AND ETHICS**

by  
**Andrew B. Wowk**

**A Thesis  
Submitted to the Faculty of  
New Jersey Institute of Technology  
In Partial Fulfillment of the Requirement for the Degree of  
Master of Science in Environmental Policy Studies**

**Department of Humanities and Social Sciences**

**May 2002**

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**APPROVAL PAGE**

**Agricultural Land Reform Policy in Western Ukraine:  
The Influence of Environmental History and Ethics**

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This thesis is dedicated to my mother Ulana, my late father Anatole, my wife Larissa, my family, and to all those who ever taught me about Ukrainian culture and history  
– thank you.

Присвячую цю тезу моїй мамі, Уляні, моєму покійному батькові Анатолеві, моїй жінці Лярисі, та моїй родині, та всім тим котрі навчили мене про українську культуру та історію  
– дякую.



*„Гей, ти, пане господарю,  
В тебе в дворі, як у раю:  
В тебе воли половії,  
В тебе плуги золотії... ”*  
(Буковинська пісня на Водохрища)

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## CHAPTER 1

### INTRODUCTION

Most academic discussions of global land reform tend to focus on the economic impacts and goals of this process. For example, agricultural land reform, in the form of land privatization, is currently being attempted in Ukraine and other "transition economies" of the former Soviet Union. Part of this process includes overhauling inefficient, and often environmentally catastrophic, agricultural policies implemented during Soviet rule in Ukraine. But the study of agricultural change often extends beyond strictly economic or environmental issues, as Opie notes:

The workable model to emulate is a comprehensive agricultural paradigm that is separate, more complex, and inclusive. Agriculture is elusive; it is virtually a floating paradigm with a life of its own. It builds on historic experience but belongs to no historic era. It involves environment and economics but belongs to neither (Opie 1993, 23-24).

In countries such as Ukraine, agricultural land reform is also occurring against the backdrop of a changing *ethical* system: a transition from an ethic which justified the state's dominance over individuals (both human and non-human), to a post-Communist ethic based on the rights of individuals to self-determination and private ownership. And, since it has a direct impact on the non-human environment, agricultural land use can also be studied as an issue in environmental ethics.

The practice of agriculture has always had deep ethical implications. Historically, agriculture has been the activity that brings humans into the closest contact with the natural world, and as such, has played a major role in developing respect, and a sense of moral obligation, to the land. Among Ukrainians, this sense of connection to the land and the non-human environment has been a strong cultural factor throughout the country's

history. As one author notes, "In accordance with the [Ukrainian] folk worldview, a person could not be separated from nature. With an analogy from nature, even the age of a person is compared to a particular season (childhood – spring, youth – summer, etc.)" (Naulko 1993).

The purpose of this thesis was to provide a case study of agricultural land reform policy in one area of Western Ukraine, and to explore the potential influence of environmental history and ethics on this process. Specifically, environmental history research and field research were carried out within Lviv *oblast* (a political division comparable to a state or province). The research was based on a "bioregional" environmental history approach, which includes "emphasis on the close linkage between ecological locale and human culture," and attempts to study "deep" history (a specific area over an extensive period of time) vs. "shallow" history (a wide area over a limited period of time) (Flores 1994). The thesis research attempted to answer the following question: "Can an area's environmental history, including environmental ethics, be an influencing factor on agricultural land use, when political and economic factors allow it to be?"

## 1.1 Background

Ukraine is the third-largest country in Europe (in area), with a population of approximately 50 million, and has historically been known as "the breadbasket of Europe" for its exports of grains, fruits and vegetables. The country's productivity resulted from nearly ideal natural agricultural conditions, including rich and fertile soils (particularly, humus-rich black soils, or *chornozem*), adequate rainfall, and a temperate

climate. However, Ukraine has seen its agricultural production decline dramatically since its independence from the Soviet Union in 1991. The reasons for this decline have included economic problems during the transition period, and opposition to national reform measures by regional and collective farm bosses, who are often former members of the Soviet-era bureaucracy.

Western Ukraine was chosen for this study since it is a region of Ukraine which appears to be more receptive towards agricultural privatization than other parts of the country. This has been attributed to the fact that Western Ukraine underwent agricultural collectivization later than Eastern Ukraine, since it was not incorporated into the Soviet Union until 1939. Lviv, the political center of this area, is the largest city in Western Ukraine and a historically important cultural center. Western Ukraine also has been historically more nationalistic than the more-Russified eastern portion of the country, even during Soviet times.

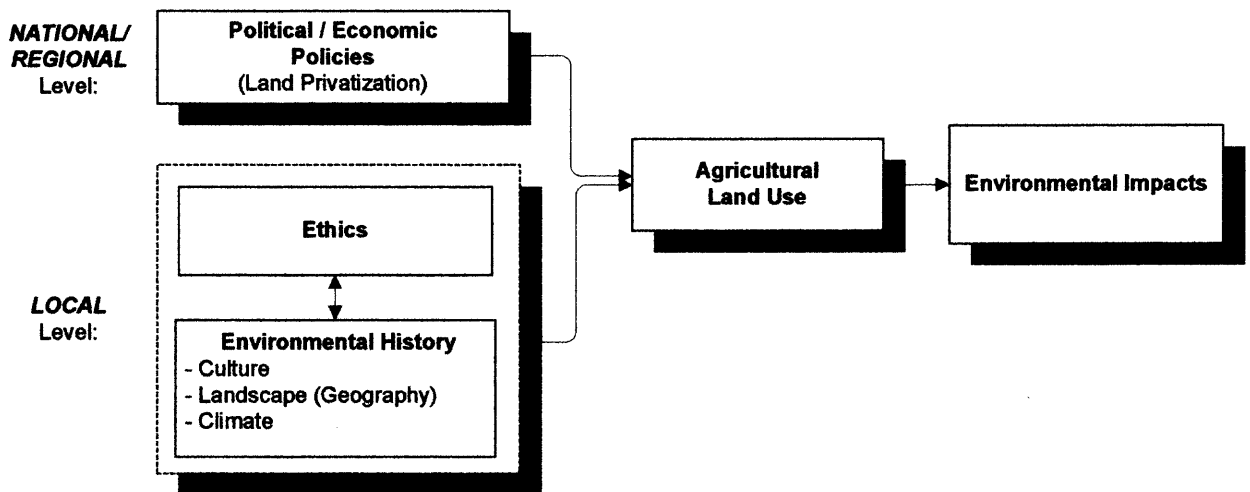
Lviv oblast in particular is one of two oblasts in Western Ukraine which have implemented more progressive land reform measures, on a regional scale, than the official land reform legislation developed in Kyiv, Ukraine's capital. Between 1992 and 1995, agricultural productivity in these two oblasts dropped significantly less than the average rate of agricultural decline across Ukraine as a whole (USDA 1999).

This thesis chose to explore the environmental history and current progress of land reform on the local level within Lviv oblast. Changes in agricultural policies are often best observed on a local level, as Opie notes, since agriculture is "site-specific": "Agriculture is local everywhere in the world; it succeeds or fails depending on the ability of a tract of land, miniscule in global terms, to produce a crop. ... Natural



resources stewardship and environmental ethics also begin at home” (Opie 1993, 307-308).

Thus, the expected results of this thesis were that the local environmental history of the study area – including human interaction with the local landscape; local culture; and previous exposures of the local population to private land ownership – would have an impact on current agricultural land use, and on the relative success or failure of land reform in that area. It was expected that environmental ethics, as a component of local culture, could be an influencing factor in this process. A diagram illustrating this predicted model is shown below.



**Figure 1.1** Predicted Model for the Thesis Research.

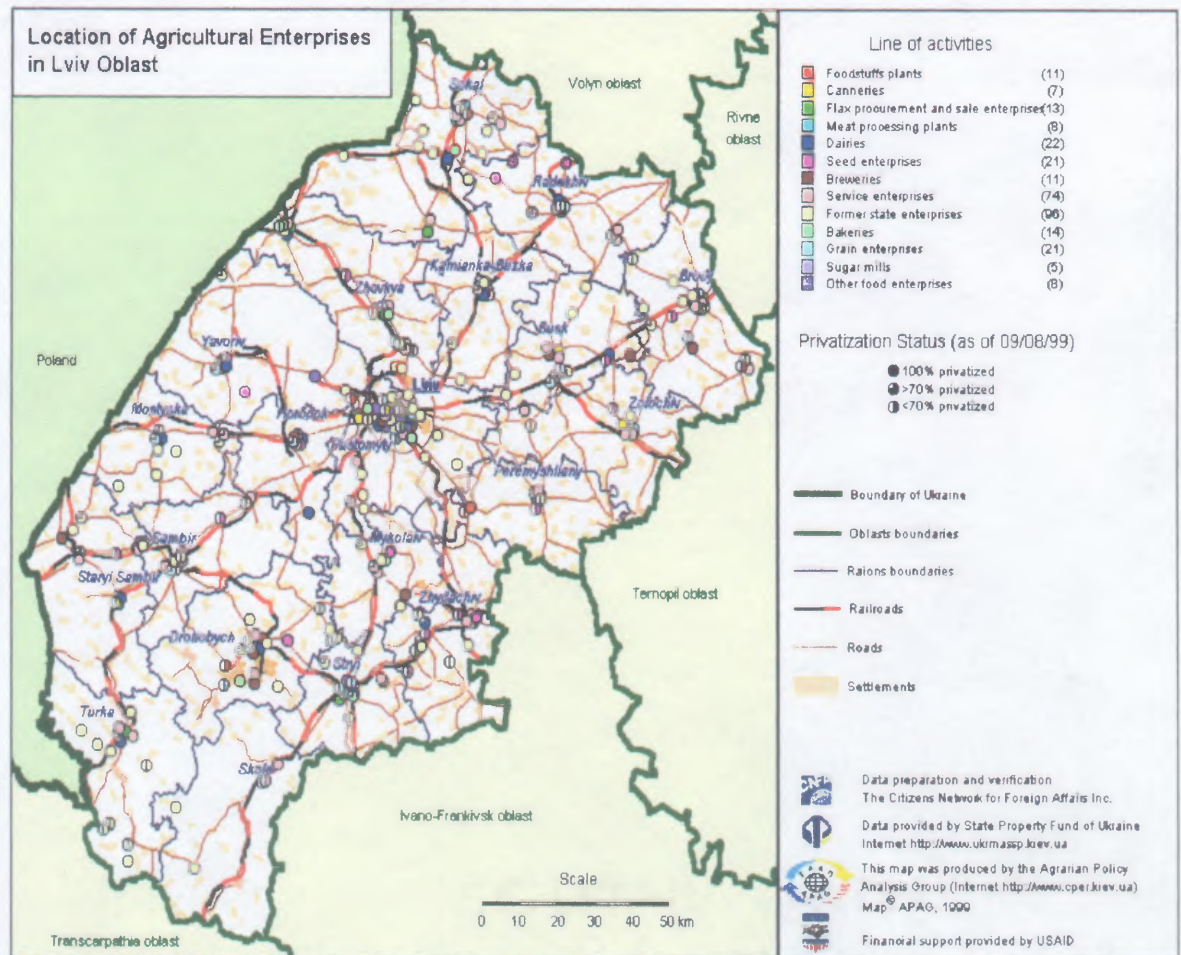
## 1.2 Description of Study Area

Lviv oblast is located in the westernmost portion of Ukraine, along Ukraine’s border with the eastern section of Poland. The oblast is located within Volhynian-Podolian Plateau, a geographical area with wide river valleys and broad flood plains. This area has

historically been known as Galicia. Non-developed areas within the oblast are generally covered by grain fields and meadows.

The Lviv area shares Ukraine's moderate continental climate, which is characterized by four distinct seasons, annual snowfall, higher precipitation levels in summer than in winter, and a long and mild autumn (Kubijovyč 1970).

According to Ihor Vuytsyk, chief of the Center of Privatization and Agrarian Reform, Lviv Regional State Administration land (personal communication, Sept. 4, 2001), some 697 farms existed in Lviv oblast as of September 2001, with the majority of these being small collective partnerships consisting of 3-5 individuals. Of this total, approximately 45 enterprises were private farms, started with a minimum of about 10 hectares (24.7 acres) of land. Important agricultural products grown within Lviv oblast include flax, sugar beets, and grains. Approximately 300 non-farm agricultural enterprises of various types are registered within the oblast (State Property Fund of Ukraine, <http://www.ukrmassp.kiev.ua>). The locations of these enterprises, and the boundaries of Lviv oblast as a whole, are shown in the map below.



**Figure 1.2** Map of Study Area.

### 1.3 Agricultural History Background

Despite the country's natural resources, malnutrition and poor agricultural production have been a problem throughout 20<sup>th</sup>-century Ukrainian history, due to the state's mismanagement of agriculture (Senchenko 2001). The current attempts at land reform are also occurring against the backdrop of Ukraine's diverse, and sometimes traumatic, environmental history, including Stalin's forced collectivization of agriculture, and the accompanying Great Famine in Eastern Ukraine in 1932-33.

After the Soviet government's industrialization of agriculture, Ukrainian agricultural productivity reached the level of developed countries during the 1960s through 1980s. In the last decades of the Soviet Union, Ukraine provided 25 percent of all Soviet agricultural output (Lanovyk *et al* 1994). But the country's agricultural system remained highly inefficient, due to the underreporting of true expenses.

The gains in agricultural productivity were also accompanied by serious environmental impacts. From the 1960s to the 1980s, the agricultural load on arable land in Ukraine was three to four times higher than in Germany and Japan. Today, more than 70 percent of arable Ukrainian land is taken up by agricultural enterprises (Lanovyk *et al* 1994, 362). Lanovyk notes there has been a "catastrophic shrinkage" of arable land in Ukraine in recent years, with wind and water erosion as the major problems. Yearly, up to 600 million tons of arable soil in Ukraine are washed away, and up to 19.2 hectares (474 acres) of soil are lost to wind erosion (p. 362). Parts of the agricultural sector also continue to be affected fallout from the Chernobyl nuclear disaster in 1986.

Although Ukrainian President Leonid Kuchma issued several decrees on agricultural land privatization between 1993 and 1999, these directives stopped short of allowing outright private ownership of agricultural land. Rather, ownership was allowed only by joint-stock enterprises or other group organizations, and generally only to members of former collective farms. Regarding these current land reform efforts, Senchenko states the following:

Considering the mentality of post-Soviet farmers, their bent for collectivism as well as the existing technical basis for collective land ownership, the government of Ukraine decided on a step-by-step reform. These steps might be called a fourth attempt in a 150-year period to increase productivity, eliminate malnutrition, and reclaim Ukraine's "bread basket" reputation."

As a result of the land reform process, by April 2000 some 12,400 private agrarian enterprises had been created in Ukraine, from 10,600 former collective farms. In March 2001 a new law was passed to write off the taxes and debts of privatized agricultural enterprises, which were inherited from former collective farms. Reformed enterprises have also made efforts toward securing badly needed bank loans (Senchenko 2001).

On October 25, 2001, the Ukrainian Parliament approved a new land code for the country, popularly labeled the “land constitution”, whose aim was to privatize land immediately, and to make land a commodity which can be freely bought and sold in approximately three years (Woronowycz 2001).

#### **1.4 Research Methods**

The major components of this thesis were: 1) environmental history and ethics research, and 2) field research of environmental attitudes and government land privatization policies at the local level in Lviv oblast, Western Ukraine.

**Environmental history and ethics research** was conducted in the U.S. and Ukraine, based on available primary and secondary sources of information on Ukrainian general history; agricultural and environmental history; and history of philosophy and ethics, with an emphasis on environmental ethics and the ethics of land ownership and use. The historical research in the U.S. focused on national and regional trends in Ukrainian environmental history and ethics, while research conducted in Ukraine focused on Lviv oblast and on one village within the oblast, Zvenyhorod. The results of the environmental history and ethics research are discussed in detail in Chapter 2.

**Field research** for the thesis consisted of questionnaire research of private farmers throughout Lviv oblast, as well as in-depth interviews with several of farmers in the Zvenyhorod area. In addition, a review of regional government land reform policy in Lviv oblast was also conducted, through interviews with government officials and a review of legislation and publications regarding the privatization of agricultural land.

The purpose of the field research was to provide data on local attitudes towards the environmental ethics of agriculture and agricultural privatization, and to examine the possible role of local environmental history as an influencing factor on these attitudes. The results of the field research are discussed in detail in Chapter 3.

## **CHAPTER 2**

### **ENVIRONMENTAL HISTORY AND ETHICS RESEARCH**

The historical research conducted in the U.S. was based on available (primarily secondary) sources of information on Ukrainian agricultural and environmental history, and on the history of environmental ethics and ethics of land ownership/use in Ukraine. Reviewed sources included English- and Ukrainian-language scholarly books, journals, and publications available on the World Wide Web. Some English-language information on Soviet / pre-Soviet Ukrainian history was also found within works on Soviet and/or Russian history. The majority of these sources were reviewed and/or borrowed through the Rutgers University Library System (RULS), based in New Brunswick, NJ.

Historical research was also conducted in Ukraine between September 3 and 10, 2001, and focused on primary and secondary sources of information about the history of agriculture in Lviv oblast, including the village of Zvenyhorod, and on local government policies toward land privatization. Reviewed historical sources included historical maps, government and municipal documents, deeds, books, and other sources. Historical research was conducted in Vasyl Stefanyk Lviv Academic Library, the Central National Historical Archives of Ukraine (City of Lviv), and in the Museum of the History of Zvenyhorod, within the village of Zvenyhorod.

A list of the environmental history and ethics sources reviewed during the historical research is included in the References section. A summary of the environmental history and ethics review pertaining to the study area is presented below.

## 2.1 Environmental History Research

### 2.1.1 Landscape and Geography

Kubojovič notes that as a whole, Ukraine can be seen as a geographic bridge between Eastern Europe, the Mediterranean, and the Balkans, which also lies in the immediate neighborhood of the steppes and deserts of Asia. Geological conditions vary widely across the country, and make the landscape of Ukraine "more varied than that of any other part of Eastern Europe" (Kubijovyč 1970). He also notes that the combination of a temperate climate and fertile *chornozem* (black soils) in Ukraine has led to the development of characteristic types of vegetation in the steppe and forest-steppe areas of the country, which are "exceptionally suitable for agriculture."

Land elevations in Lviv oblast area of Ukraine, the study area, range from approximately 200 to 500 meters above sea level (ASL). Soils in this area generally consist of mountain podzolized brown earth and mountain podzolic soils, which are defined as chernozems degraded (i.e. podzolized) by forest growth (Kubojovič 1970, 65). Deep plowing and the application of lime, mineral fertilizers, and manures are required for agricultural productivity.

Kubojovič defines the landscape within the Lviv area as a plateau landscape of erosive topography, with gullies and ravines. He notes that several physio-geographic features meet in this area, including the following:

The Podilian Upland (Opilia) - This feature is found in the southeast section of the study area, and is characterized by mature landscapes without canyons; river valleys which are wide, leveled, and have broad flood plains; and watersheds which are dissected by secondary valleys, forming picturesque hilly country. It is a smooth and mild



landform, due to soft chalky rock lying near the surface, and contains hills covered by forests, and watersheds covered by grain fields and meadows.

Roztichia - This feature is found in the western part of the Lviv area, and is also composed of chalk. It rises some 330-400 feet above the surface of neighboring Buh and Sian Lowlands, and is an area of vigorous erosion with a large number of deep gullies. Hills in this area are covered by mixed forests, while meadows are common in the flood plains.

The Volhynian-Kholm Upland - Found in the northern part of the Lviv area, this is a plateau landscape which is further subdivided into an erosive-ravine geography, and a glacial geography.

In addition, Kubojovič notes that the Buh River Basin is located in the northeast part of the Lviv oblast area, between escarpments of the Volhynian-Kholm Upland and the Sian Lowland, which is located in the western part of the oblast.

### **2.1.2 Historical Boundaries and Impacts on Environmental History**

Prior to Soviet times, administrative divisions within Ukraine did not always take into account natural and economic boundaries and characteristics, but rather, were often based on earlier historical boundaries. Administrative boundaries established in Soviet Ukraine, including those of the current Ukrainian oblasts, also often cut across natural and economic regions (Kubijovič 1970, 155). Kubijovyč considers Galicia to be one of 14 distinct historico-geographic regions within Ukraine, based on historical differences, regional differences among the population, and economic conditions. He notes that the

boundaries of these regions do not necessarily correspond to the current administrative boundaries within Ukraine.

From a historical perspective, the earliest recorded administrative divisions within the study area were those of the medieval Kyivan realm (Kyivan Rus'), which included the principality of Galicia, in addition to the principalities of Kyiv, Chernihiv, Pereiaslav, Turov-and-Pinsk, and Volhynia. These principalities were subdivided into *volosts* (princely domains, i.e. small principalities). During the period of the Polish-Lithuanian Commonwealth, Western Ukraine was divided into *voievodstvos* (provinces), which were in turn divided into counties or lands. Eight of the provinces were in the Polish state, while one was within the Lithuanian state.

The Ukrainian Kozak state, under the rule of the Hetmans, initially consisted of all of central Ukraine. However, after 1666, Western (or "Right-Bank") Ukraine was assigned to Poland. During the first partition of Poland in 1772, Western Ukrainian lands were incorporated into Austria under the old name of Galicia, which was later changed to the "Kingdom of Galicia and Lodomeria." In 1861, Galicia was recognized as a Crown land of Austria. This territory was first divided into administrative circuits, and later into counties, which in turn were subdivided into local communities.

After political partitions during the 19<sup>th</sup> and early 20<sup>th</sup> centuries, the part of Western Ukraine containing Galicia was called Austrian Ruthenia (*Rus'*). Later, Galicia was called *Naddnistrainshchyna* ("country on the Dniester"). After 1917, Galicia became part of Western Ukrainian National Republic, but the administrative division into counties remained. After World War I, the name "Western Ukraine" was introduced, to mean the Ukrainian lands under Poland. (Poles referred to Galicia as "Eastern Little

Poland".) While under Polish rule, Western Ukrainian lands were divided into *voievodstvos* (provinces), counties, and *volosts*.

After the formation of Soviet Ukraine in the 1920s, the *oblast* system of regions (similar to states or provinces) was introduced in 1931-32. Each oblast was further subdivided into *rajons* (similar to counties) , and village councils. In 1962, Lviv oblast became part of the Lviv economic region.

Kubijovič notes that a strong regional separateness is felt by groups of the Ukrainian population, such as those within Galicia, which had lived for centuries largely in isolation from the rest of Ukraine. Based on its historical development, the current ethnic population of Galicia is 90 percent Ukrainian (Zinkewych and Hula 1995). This is a significantly higher percentage than in those areas of Ukraine which were previously under control of the Russian Empire.

### **2.1.3 Land Use and Ownership History in Western Ukraine**

#### *The Medieval Period: Kyivan Rus' and the Galician-Volhynian Kingdom*

Agricultural land was used collectively in Western Ukraine starting during the Slavic period of Ukrainian history (6<sup>th</sup>- 9<sup>th</sup> centuries A.D.). The primary crop in Ukraine during this period was millet, which was generally sown in small clearings on the edges of forests, without the use of draft animals or plowing. This practice ended between the 11<sup>th</sup> and 13<sup>th</sup> centuries, when iron and wooden plows, similar to Roman plows, began to be used.

During the Slavic period, the territory of Ukraine was inhabited by about 14 different East Slav tribes. The East Slav settlements generally consisted of clusters of

numerous small villages built around a fortified stronghold, with land and livestock considered to be the communal property of extended families (Subtelny 1998, 21). Pasturelands, forests, rivers and other waters, and natural resources in general were considered common property, for use by all. Lanovyk *et al.* consider the East Slav social organization an early form of feudal land ownership, noting that it eliminated the concept of *privately* held property which had been in place during the earlier Antean<sup>1</sup> civilization in Ukraine (Lanovyk *et al* 1994, 55).

Private land ownership, most often by princes and other nobility, was ushered in during the Kyivan Rus' period (10<sup>th</sup>-13<sup>th</sup> centuries A.D.). Kyivan Rus' included the area surrounding Lviv in the 10<sup>th</sup> century, although Western Ukraine would later become part of the Galician-Volhynian kingdom. Documented agricultural land ownership in Ukraine is believed to have originated during Kievan Rus', and despite its commercial orientation, agriculture is believed to have formed the basis of the Kyivan economy (Wynar 1984). As an example, Subtelny notes that the Kyivan princes eventually evolved a tax system which taxed each extended household involved in agriculture.

The growth of Kyivan Rus' led to the eventual disintegration of communal land ownership in Ukraine, and to the establishment of private land ownership by its upper classes. Lanovyk *et al* attribute this to two factors: 1) the transformation of land ownership into a hereditary right (*votchyna*), and 2) the capture of neighboring lands during warfare among princes. (Lanovyk *et al* 1994, 56). This right was codified in the Kyivan legal code ("Rus' Justice") of the 11<sup>th</sup> century. The concept of hereditary

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<sup>1</sup> The Antes were one of the nomadic tribes which made up Sarmatians, descendants of the Scythians who had been present in Ukraine from about 250 B.C. to 250 A.D. (Magocsi , 27).

ownership is partially blamed for the eventual decline of Kyivan Rus' and the destruction of Kyiv in the 13<sup>th</sup> century, after many years of political fragmentation, warfare, and Mongol invasions (Subtelny 1998, 56).

Wynar notes that the primary method of cultivation at this time was the short-fallow system, with two- and three-field crop rotation. The earlier, long-fallow method could no longer be used in the densely populated areas of Ukraine, "where much of the land belonged to private landholders and infractions of land boundaries were punished severely by princely law" (Wynar 1984, 26). Land in Kyivan Rus' was privately owned, with state law protecting property rights, and most Ukrainian peasants were freemen. For this reason, Kyivan Rus' is often considered to have been a unique and independent social system, unlike the vassalage of feudal systems in Western Europe at the time. (Subtelny 1998, 47).

Although Ukrainian peasants often owned their own farming implements, most of the population banded together in self-governing communes (*obshchyny*, or *hromady*), usually consisting of blood relatives, to help each other with the agricultural work. Iron plowshares were in use during this time, and primary crops included wheat, oats, rye, and barley.

In the 11<sup>th</sup> century, the growth of the princely, *boyar* (nobleman), and church estates led to the use of hired and some slave labor in Ukraine for agriculture. Due to fighting among the princes, some peasants were forced to abandon their land and seek protection in princely or boyar manors. Wynar notes that as a result, the peasantry became impoverished, and formerly independent farmers were forced to become hired laborers on large estates. The historical town of Zvenyhord, surrounded by fortifications,

is believed to have been founded during this period, in the year 1087. (Source: Zvenyhorod Historical Museum).

Wynar points out that this growth of economic feudalism was first seen in Western Ukraine, in the 12<sup>th</sup>-century principality of Galicia-Volhynia, as part of the transition to the manorial system of agriculture (Wynar 1984, 27). Subtelny notes that the Galician nobility was particularly strong because it did not need to obtain its estates from the prince, but did so by taking over formerly open communal lands as its own. In Galicia, land could also be given to worthy noblemen by the prince, in return for military service or other accomplishments (Lanovyk *et. al.* 1994, 57).

#### *The Lithuanian-Polish and Austrian Periods*

Western Ukraine was occupied by Poland between the 14<sup>th</sup> and 17<sup>th</sup> centuries, and afterwards became part of the Austrian Empire. During these periods of occupation, Ukrainian peasant farmers were often forced to work as serfs or indentured laborers on large manors and latifundia which were established in the region (Kubijovyč 1985).

The forced attachment of Ukrainian peasants to landed estates increased during the 16<sup>th</sup> and 17<sup>th</sup> centuries, particularly in Galicia, accelerated by a Lithuanian land reform measure in 1557 (Wynar 1984, 27). Large Polish and Lithuanian landholders sought to expand their agricultural production, and gradually enserfed the peasantry, in violation of the previous Kievan legal code. Poland and Lithuania were unified as one state in 1569, which led to the Polish gentry acquiring even larger landed estates in Ukraine. Such estates often included multiple towns and villages. In the late 1500s, the steppe (eastern) lands of Ukraine also began to be settled by peasants migrating from Galicia in order to escape enserfment.

The position of the peasantry improved during the period of the mid-1600s during the Cossak Hetman period, as large landholdings by the Polish gentry on Ukrainian territory were abolished. Peasants or "common people" living under the hetman's authority were now allowed to sell and purchase land, and their standard of living rose (Wynar 1984, 27). Wynar notes that two basic forms of land ownership arose during this period: rank estates (lands held in connection with an office), and temporary or perpetual grants, which amounted to private ownership. However, by the late 1600s, officers' estates began to expand and take over peasant farms and Cossack holdings.

Russian tsarist authority was established in Eastern Ukraine in the 18<sup>th</sup> century, after an unsuccessful hetman rebellion. This led to the takeover of many former Cossack estates and land by Russian nobles, who instituted the tradition of serfdom and who treated Ukrainian peasants harshly. (Wynar 1984, 28). Many landless peasants from the areas under Russian authority fled to Western Ukraine, which was still under Polish control, but which later became part of the Austro-Hungarian Empire.

In parts of Austrian-controlled Western Ukraine in the mid-1800s, some 72 percent of the the population consisted of serfs, which hindered the area's agricultural productivity. In Galicia, serfdom was abolished in 1793, and an Imperial decree instituted in 1787 divided land ownership into two categories: domanial (estate owners) and rustic (peasant owners). The decree stated that all lands held by peasants as of 1786 would remain in their hands for perpetual use, but individual peasant land holdings were extremely small: an 1819 survey found that some 20 percent of peasant farms possessed less than 0.7 hectares (1.7 acres) of land (Wynar 1984, 31). The growth of large estates led to an even greater land shortage, and cheap rates of farm labor. Overall, however,

Galicia produced a significant percentage of the agricultural output of the Austrian Empire during this period.

In 1848, several important political events occurred in the Lviv area, including the abolition of serfdom and the incorporation of Galicia into the Austro-Hungarian Empire. The reforms of 1848 released more farmland to peasants in Western Ukraine, but forests and hayfields remained in the possession of large landowners. This resulted in a heated contest between peasants and landowners over "servitudes", the right of free use of forests, pasturelands, fishing areas, and clay, sand, and rock quarries, which "led to a torrent court cases, open demonstrations, and mass agitations" (Naulko *et al* 1994, 152).

The growth of usury in the late 1800s also became a major problem, and led to some 25 percent of peasant lands in Galicia being seized by creditors in the 1890s (Wynar 1984, 31). Taxing of peasant lands also increased in the early 1900s, and led to the auctioning off of many farms in Western Ukraine.

#### *Agriculture in the 20<sup>th</sup> Century*

After the fall of the Austro-Hungarian Empire following World War I, the Western Ukrainian Republic was proclaimed in Lviv in November 1918, but the region was occupied by Poland shortly thereafter.

Agriculture in Western Ukraine suffered serious setbacks during World War I, after which there were restrictions on the right of land purchase by Ukrainian peasants. Despite continued land shortages, however, agricultural productivity increased in this area in the 1930s (Wynar 1984, 33).



A large role in the success of Western Ukrainian private agriculture in this time period was played by the growth of various agricultural cooperatives. The cooperatives were democratic institutions which provided not only a commercial, but also a social, infrastructure for farmers and others involved in agriculture. The earliest of these, the cooperative *Sil's'kyj Hospodar* ("The Village Farmer"), was formed in 1899, and was followed by the formation of a number of others through the 1920s. Despite strong opposition to the cooperatives by the occupying Polish government between 1918 and 1920, by the end of 1927, some 91 percent of all villagers in Western Ukraine were members of a cooperative. This represented some 127,000 individuals, with an average of about 90 members per cooperative (Struk 1970, 67). The cooperatives were especially helpful to small farmers. By 1938, some 60 percent of the members of agricultural cooperatives were land owners with 5 morgens (about 10.6 acres) or less of land, and some 82 percent of cooperative members owned 9 morgens (about 19 acres) or less of land (Struk 1970, 68).

Western Ukraine was occupied by the Soviets in 1939, at which point collectivization of peasant lands was begun, but the process was interrupted by the German occupation of Ukraine during World War II. The collective- and state-farm structures established by the Soviets were maintained by German authorities during their occupation between 1941 and 1944.

Ukraine was re-incorporated into the Soviet Union following World War II, but the mass collectivization of agriculture in Western Ukraine was not accomplished by the Soviets until 1948-49, at the time that other Eastern European countries were also being collectivized (Marples 1992). Marples notes that Lviv oblast was among the slowest to be

collectivized, since the initial Soviet goal following the war was to industrialize the city of Lviv, while agricultural issues were secondary. The rate of collectivization in the oblast was also slowed by Ukrainian insurgent nationalist forces, which operated against the Soviets in Western Ukraine until as late as 1950.

Traditional Ukrainian village settlement forms underwent changes as a result of Soviet collectivization of agriculture, as old-type villages with individual farmers were transformed into collective villages. The goal of the Soviet government was the unification of rural settlements, collective farms, and village councils, which was begun in the 1930s as a way of maintaining tighter control over peasants (Kubijovyč 1970).

During the Soviet period, which ended with Ukraine's declaration of independence in 1991, agricultural products from Lviv oblast included grains and "industrial" agricultural crops such as flax and sugar beets. Non-agricultural operations within the oblast included industry, coal-mining, and petroleum refining.

#### **2.1.4 Case Study: The Village of Zvenyhorod**

The village of Zvenyhorod is located some 18 kilometers southwest of Lviv, between the Koc'urivka and Bilka Rivers. The village and its surrounding fields lie in an area of gently rolling hills, and possess rich soils which are well-suited for agriculture. An elementary school and a church are located in the center of the village, and many inhabitants engage in agriculture, often on small plots which have recently been privatized by the Lviv oblast regional government. Copies of several photographs from the Zvenyhorod area are included in Appendix B.

Based on information in the Zvenyhorod Historical Museum, Zvenyhorod was founded in 1087 as a town within the Galician kingdom. The town contained a central area fortified by ramparts, surrounded by an outer area, which contained the dwellings of tradespeople and villagers. The outer town was further developed between 1110 and 1137, but in 1146 it was destroyed during a battle with armies of the Kyivan prince Vsevolod. During the early history of Zvenyhorod, the town was divided into some 33 manors, and its townspeople engaged in agriculture as well as trades involving wood and leather. Ownership of agricultural land during this time is believed to have been private.

In 1349, the Galician kingdom, including Zvenyhorod, was taken over by Polish feudal landowners. In 1370 the area was occupied by Hungary, then again by Poland in 1387. By the 14<sup>th</sup> century, Zvenyhorod was classified as a village which came under the jurisdiction of the Lviv province of the Polish empire. Between the 14<sup>th</sup> and 18<sup>th</sup> centuries, the feudal obligations of Galician peasants to their Polish landlords increased dramatically, growing from 14 days of required labor per year at the beginning of the 15<sup>th</sup> century, to 90 days at the beginning of the 16<sup>th</sup> century. At the outset of the 18<sup>th</sup> century, peasants were required to work for their landlord for 208 days per year, and by the end of the 18<sup>th</sup> century, for 312 days per year. In the 18<sup>th</sup> century, some 60 percent of Galician peasants owned a small amount of land, while 40 percent were landless. (Source: Zvenyhorod Historical Museum.)

From the 15<sup>th</sup> through the 17<sup>th</sup> centuries, areas of Galicia were often the victims of Turk-Tatar invasions, particularly in the years 1498, 1520, 1564, 1621, and 1676. In 1649, Zvenyhorod was almost completely destroyed during such an invasion. The town

sustained additional damage in the second half of the 17<sup>th</sup> century, in connection with Polish-Turkish wars in the area.

By the 18<sup>th</sup> century, villagers of Zvenyhorod lived in 26 separate dwelling areas, which were based on the original manors. Each dwelling area consisted of a group of one to four houses, sharing a common area of farmland. Later these dwellings were subdivided into households with individual houses and smaller accompanying areas of land. This division of farmland often led to social stratification of the villagers, with poorer peasants keeping the smallest areas of land or becoming hired workers for wealthier peasants.

The abolition of serfdom in Galicia in 1848 did not lead to better conditions for many Galician peasants, including the inhabitants of Zvenyhorod. Some 40 percent of the best agricultural land remained in the hands of large landowners, the church, or the state. Between 1905 and 1907, Zvenyhorod villagers took part in strikes which swept this area of Western Ukraine.

Under Soviet rule, Zvenyhorod became the site of several collective farms, which were even displayed to foreign visitors as a model of collectivized agriculture by Soviet Premier Nikita Khrushchev. Some post-Soviet state farms existed in the area as late as 1996. The first privatized agricultural enterprises were formed in Zvenyhorod in the early 1990s, and included a total of eight collective partnerships, including the “Prince’s Castle” farm, which employed 500 individuals. According to Ihor Vuytsyk, chief of the Center of Privatization and Agrarian Reform (including the Lviv Chamber of Agriculture), Lviv Regional State Administration, three of these early private enterprises fell into bankruptcy, although others have been farming successfully in the area since the

early to mid-1990s (personal communication, Sept. 4, 2001). The results of interviews with two private farmers in the Zvenyhorod area are included in Chapter 3 – Field Research.

### **2.1.5 Summary of Environmental History Research**

Agricultural land was used collectively in Western Ukraine starting during the Slavic period (6<sup>th</sup> - 9<sup>th</sup> centuries). Private land ownership, most often by princes and other nobility, was ushered in during the Kyivan Rus' period, and extended to the Galician kingdom in Western Ukraine (10<sup>th</sup> - 13<sup>th</sup> centuries), the time period during which the town of Zvenyhorod is believed to have been founded. Between the 14<sup>th</sup> and 19<sup>th</sup> centuries, Western Ukraine became part of the Polish-Lithuanian, and later the Austro-Hungarian, empires, and land ownership by individual farmers became increasingly difficult to attain.

An early attempt at land reform occurred in Western Ukraine in 1848 under Austro-Hungarian rule, and allowed peasants to buy and sell land, although large landowners retained the rights to common areas. However, individual peasants remained impoverished because of the small size of their landholdings. The right of peasants to own land was restricted during Polish occupation after World War I. The Soviets began the process of agricultural collectivization in Western Ukraine in 1939, but collectivization was not completed until after World II. Soviet collective farm structures existed in Ukraine until the country's declaration of independence in 1991.

Thus, interrupted periods of private land ownership existed in Western Ukraine until the early 20<sup>th</sup> century. This contrasts with the longer history of collectivized land use

in Eastern Ukraine, which had been annexed and collectivized by the Soviet Union 20 years earlier. As one author notes, when the current land reform measures began in Ukraine, residents of Western Ukraine “were the only group who still remembered what land ownership was about. Some of them could even point [to] the exact locations of their former estates” (Senchenko 2001).

## **2.2 Environmental Ethics Research**

### **2.2.1 Traditional Ukrainian Attitudes Toward Nature**

Several authors have noted that Ukraine's long tradition of agriculture has led to a strong sense of attachment and respect by its population to the natural environment. For example, Petrov notes that the traditional, clan-based Ukrainian folk view of the natural world did not differentiate between the various elements of the environment: "No hierarchical delimitation separated the organic and the inorganic; living and dead matter; the human and the non-human; the human being, the animal, the plant, and the object; being and place; the quality of the object and the object itself" (Petrov 1970, 343).

This concept of a close bond with nature also forms the basis of many Ukrainian folk customs, which are linked to events on the agricultural calendar (such as the sowing of seeds and the harvesting of crops). Associated with a strong bond to nature is the traditional Ukrainian affinity for community-based goals and organizations, centered on the *hromada* (community). Mirchuk defines the *hromada* as a "voluntary union of individuals who... are willing to work together for common aims, but who reserve the right to leave the union" (Mirchuk 1949, 40).

Naulko *et al* point out that the community concept was an important factor in Ukrainian land ownership and use of natural resources:

In [Ukrainian] society there were strongly held, ancient communal beliefs regarding the fact that private land ownership extends only to the field, garden, and orchard, which require the work of people. Natural resources - the forest, mushrooms, berries, animals, fish in the rivers and all else that is 'from God' -- were recognized as public. Such attitudes among the members of peasant communities often became the reason for sharp conflicts with large landowners and the official authorities (Naulko *et al* 1994, 152).

Such conflicts clearly occurred in Western Ukraine after the abolition of serfdom in 1848, in contests over peasants' rights to free use of "servitudes".

Other sources also point to the traditionally close interaction between nature and people in Ukraine. Such evidence can be found in folk beliefs, as in the following example:

According to a Carpathian traditional legend, nature itself will predict the end of the world: grains will stop growing, springs will dry up, and "for seven years there will be no fertility, either among people, grains, or pastures, and a famine will ensue" (Sokil 1995).

Sokil attributes the moral and ethical reasons for this outcome as a weakening of family relationships and community solidarity. The health of the human community and the health of nature / Earth are closely linked in this traditional worldview.

Thus, the traditional Ukrainian concept of nature can be seen as being consistent with an environmental ethic of community-based nonanthropocentrism. It can also be seen as expressing an ethic of care and respect for the land, consistent with the land ethic put forward by Aldo Leopold. Finally, it is noteworthy that the ancient Ukrainian non-

hierarchical concept of nature seems similar to many of the central beliefs of "Deep Ecology" proponents today.

### **2.2.2 Influences of the Romantic Movement (1800s)**

Romanticism and its accompanying idealization of nature began to influence Western Ukraine in the early 19<sup>th</sup> century. This influence can be seen in the literary works of two well-known West Ukrainian female writers of this time period, Olha Kobylanska and Lesia Ukrajinka (pen name of Larissa Kosach-Kvitka).

Many of Kobylanska's short stories contain references to the Ukrainian peasant's respect for the land and nature. "In the Fields", a story written in 1898, contains the following description of the land:

Every lump of it was drenched with their worry and their toil, but also with their love – the anxious, fearful love that every peasant has for his land. It was referred to as if it was a living being. Whoever fed it – would be fed by it. Whoever neglected it – would be neglected by it.

In "The Battle" (1885), Kobylanska presents a poignant portrait of the logging of an old-growth forest in the Carpathian Mountains, and touches upon both the ethical considerations of this act ("...were [the trees] being transported now to those who had *bought* the right to rule over their fate?"), and the ecological considerations: "As far as the eye could see there stretched an unimaginable devastation, and the repugnant barrenness of the mountain tops evoked profound feelings of grief."

Ukrajinka's works describe a holistic, mystical relationship between humanity and nature. Her best-known work, the poetic drama "The Forest Song", describes the interaction between human characters and personified mythological creatures (such as



river and forest nymphs), who also personify various aspects of the natural landscape in which the author grew up as a child, in the Bukovinian forests of Western Ukraine. “The Forest Song” not only presents a romanticized portrait of nature, but directly addresses the relationship between the human and natural worlds (Krawciw 1964, 454).

The characters presented in “The Forest Song” include humans who respect and understand nature, as well as individuals for whom nature has no special meaning. A third character type is that of the individual who allows the materialism of the external world to dominate his or her internal need to be a part of nature. Throughout the work, Ukrajinka implies that those who care for and respect nature will not be mistreated by it.

### **2.2.3 Land and Ethics Under Stalinism**

Although Western Ukraine was collectivized 20 years later than Eastern Ukraine, Stalinist ethical attitudes still drove the agricultural collectivization of this part of the country. Besides increasing agricultural productivity, the goals of this collectivization drive were to replace the traditional peasant worldview with the Soviet ethic of human domination over nature. One author has described the process of collectivization as a “civil war” waged by the Soviets against the peasantry, which united many of the peasants based on their common interest: “an economic, social, and cultural entity based on small-scale agricultural production, family economies, and community living” (Viola 1996, 5). Viola stresses the cultural, as well as economic, aspects of collectivization in the following passage:

Collectivization transformed the countryside into an internal colony... The Soviet peasant colony, like most colonies, had a ‘native culture’ that was a repository of identity, independence, and resistance... Collectivization was

as much an onslaught on that culture as it was a struggle over resources” (Viola 1996, 29).

She further describes collectivization as a “wholesale assault on the cultural traditions and institutions of the village” (p. 38).

Another author describes the entire history of the Soviet Union as the history of the state’s struggle with private property (Popov 1995). In Eastern Ukraine, this property struggle began in the 1930s, with the dispossession by the Soviets of the *kulaks* (“rich” farmers), which directly led to the Great Famine in Ukraine (1932-33). The Soviets also began limitations on the subsidiary household plots of collective farmers at this time. The period of Soviet rule left deep impacts on public attitudes toward land ownership throughout the Soviet Union. A 1989 public opinion survey in Russia, for example, found that public beliefs about private property “were quite confused and overloaded with stereotypes from communist propaganda” (Popov 1995, 86).

Popov attributes this ethical confusion to the fact that under the Soviets, moral principles were intertwined with socialist law, which was based on the power of the state and enforced through fear of repression. This caused a split in the mass consciousness: publically, people followed Soviet moral principles, but internally, they rebelled against them. Official attitudes under the Soviet system stressed the supremacy of “sacred socialist property”, and negated private property. However, this led to a belief in the mass consciousness that state or publically owned property actually meant *nobody’s* property, and that one could take as much of this ‘common’ property as one wanted. As Popov notes,

Indeed, throughout decades of oppression... communism has created in the population a lack of respect for private property. The Leninist slogan, ‘rob

the robbers', has remained in the mass consciousness until now (Popov 1995, 112).

#### **2.2.4 Summary of Environmental Ethics Research**

Traditional Ukrainian attitudes toward nature, which developed from the country's long agricultural history, stressed a strong sense of attachment to the land and a deep respect for the natural environment. Private property was traditionally recognized as including only the "field, garden, and orchard", areas which required human direct intervention. All other natural resources were regarded as public property, to be used for the benefit of all. These communal beliefs also regarded the health of the human and non-human communities as being directly related.

Despite changing land ownership patterns brought on by political changes, peasants in Western Ukraine retained this ethic of respect for the land and non-human environment (and the belief that natural resources belonged to the entire community) well into the 19<sup>th</sup> century, as evidenced in the work of Western Ukrainian writers from this time period. A common theme in the works of these writers is that those who respect nature will be respected by it, and that all components of nature (living and non-living) should be respected in their own right.

The advent of agricultural collectivization by the Soviets in Western Ukraine resulted not only in the domination of peasants by the Soviet authorities, but also introduced the Soviet doctrines of domination of nature by humans, and the outlawing of most private property, attitudes which were encouraged throughout the Soviet Union. The fact that most of the population did not privately believe in these "official" state attitudes led to a moral rift during the period of Soviet rule: the external appearance of complying

with Soviet beliefs, but an internal rejection of them. This resulted in a lack of respect for the ownership rights to *any* property, either private or public, an attitude which unfortunately still persists among many residents of the former Soviet Union.

## **CHAPTER 3**

### **FIELD RESEARCH**

Field research was conducted in the city of Lviv and in the village of Zvenyhorod in Lviv oblast, Ukraine, between September 3 and 11, 2001. (In addition, research questionnaires were filled out by respondents throughout Lviv oblast up through September 27, 2002, and returned to the researcher by mail.) The field research consisted of two components: 1) questionnaire and interview research with local farmers, and 2) review of regional government land privatization policies, including interviews with regional government officials. The field research tasks focused on exploring environmental attitudes associated with the land privatization process, and are summarized below.

#### **3.1 Questionnaire Research of Farmers**

##### **3.1.1 Method**

Questionnaire research was conducted on a group of 9 farmers, who represented a sample of privatized farm owners (or leasees) throughout Lviv oblast. Many of the respondents were members of a local association of private farmers. The purpose of the research was to gather first-hand data on farmers' attitudes toward environmental ethics and agricultural privatization policies in the area.

The questionnaire respondents ranged in age from 36 to 68, and consisted of 8 males and one female. The majority of the respondents had completed higher education, often obtaining an engineering or other degree technical, and many had worked in a field unrelated to farming before agricultural privatization began in Lviv oblast in 1992. A

summary of personal information provided by the questionnaire respondents, including the location of their farms, is presented in Appendix A. (The locations of several of these villages and/or towns are shown in Figure 1.2 in Chapter 1.)

Questionnaire items were structured to measure respondents' attitudes toward care of the land and the relationship between humans and nature; the importance of environmental conservation as part of agricultural practices; and land privatization as a positive or negative factor in the care of agricultural land. The questionnaire was organized into 12 Likert scale items, and 6 open-ended survey questions. Possible answers to the Likert items were based on a scale from 1 (Completely Disagree) to 5 (Completely Agree). The open-ended questions were structured to gain more insight into the attitudes investigated by the Likert items, and a limited number of personal information questions. The research questionnaire was originally prepared in English and translated into Ukrainian before being administered.

The questionnaires were left with respondents and answered between September 24 and 27, 2001, then returned to the researcher by mail. Tabulated results of the Likert scale questions and responses to the open-ended questions (translated into English) are included in Appendix A.

### **3.1.2 Questionnaire Results**

#### *Likert Scale Questions*

Based on their answers to the test questionnaire, the respondents in the sample group showed a strong inclination toward environmental attitudes which recognize the importance of caring for the land, both out of respect for nature and as a means of

continuing the livelihood of human farmers and future generations. In addition, private land ownership was predominantly chosen as the means of land ownership most likely to result in better care for the land. The average (mean) score, standard deviation, and margin of error (95% confidence)<sup>2</sup> for each of the individual questionnaire items are tabulated below.

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<sup>2</sup> Margin of error calculated as (Standard Error of Mean x 2.306), for a total of 9 respondents in a small sample (Patten 1998, 135).

**Table 3.1** Summary of Field Questionnaire Responses (Likert Scale Items)

<b>Item No.</b>	<b>Questionnaire Item</b>	<b>Average (Mean) Score</b> (1 = Completely Disagree, 5 = Completely Agree)	<b>Std. Devtn.</b>	<b>Margin of Error</b>
1	Agricultural reforms should increase the land's productivity, but also safeguard its ecological health.	4.89	0.33	0.26
2	Increasing the productivity of the land is more important than its ecological health.	3.11	1.69	1.30
3	We should care about the land, in order to safeguard it for future generations.	4.56	1.33	1.02
4	Humans are masters over nature, and have the right to exploit it for their own purposes.	1.63	1.41	1.18
4A	If we will care about nature, nature will care about us.	4.67	0.71	0.54
5	Collective ownership of land is a better form of ownership than private ownership, with regard to ecological protection of the land.	1.67	1.00	0.77
6	In the past 10 years, I think that ecological protection of the land has improved.	2.67	1.58	1.22
7	Humans are just one part of a larger community, which includes living and non-living nature.	4.63	0.52	0.43
8	If the land is fully privatized, the ecological state of the land will improve.	4.75	0.46	0.39
9	Farmers bear the most responsibility for ecological protection of the land.	4.00	1.50	1.15
10	The government bears the most responsibility for ecological protection of the land.	3.00	1.94	1.49
11	Ecological issues should be included in government policies towards the land.	4.44	1.33	1.02

A review of these data indicates that the three items with the strongest agreement from the respondents (followed by the item's average score) were: "Agricultural reforms should increase the land's productivity, but also safeguard its ecological health" (4.89);



“If the land is fully privatized, the ecological state of the land will improve” (4.75); and “If we will care about nature, nature will care about us” (4.67).

The two items with the strongest disagreement from the respondents (followed by the item's average score) were: “Humans are masters over nature, and have the right to exploit it for their own purposes” (1.63), and “Collective ownership of land is a better form of ownership than private ownership, with regard to ecological protection of the land (1.67).

Of note, the three items with average response scores closest to neutral (3.0) were also items with some of the highest standards of deviation, indicating a wide range of opinions on these questions among the sample. These items, and their average scores and standard deviations, were the following: “The government bears the most responsibility for ecological protection of the land (3.00, 1.94); “Increasing the productivity of the land is more important than its ecological health (3.11, 1.69); and “In the past 10 years, I think that ecological protection of the land has improved” (2.67, 1.58). Individual responses to the first question were almost evenly divided on the attitude scale, with four respondents giving scores of 5.0 and three respondents giving scores of 1.0. Individual answers to the remaining two questions likewise varied widely.

### *Open-Ended Questions*

The responses to the six open-ended questions indicated that agricultural land privatization was occurring in most of the villages where the respondents were farming, but that the land reform measures themselves were often seen as not being as effective as they could be. (“As a result of feeble agricultural reforms, the land is being overgrown

with weeds,” one respondent noted.) In response to the question “What are the biggest obstacles to privatization?”, one respondent indicated that such obstacles included “national politicians”, while another added that there is “little understanding of [agricultural] work on a local level, from the side of the national government”. Two respondents indicated that the infrastructure for an agricultural land market (including laws governing the selling and purchasing of land) was needed.

The respondents unanimously agreed that privatization of agricultural will lead to a better state of the land, and also generally agreed with the attitude that private ownership is less damaging to ecology than collective land ownership. On this issue, one respondent replied, “When the land becomes owned, the land owner will care for it as his own.”

However, one respondent also noted that as a result of land privatization, the regional land management system had been abandoned and “the parceling to land owners has made [the land’s] exploitation and care more complicated”. Another respondent wrote, “Today’s privatization, in the form that it is in, will cause the degradation of land resources. Less humus is being mixed into the soil through cultivation technology.” Still another respondent mentioned the land’s “overgrowth by weeds” as an ongoing problem.

The respondents nearly unanimously agreed that “ecologically clean” agriculture should become the norm for Ukrainian farmers, and that the government should support such production. One farmer stated that pursuing this direction is “obligatory”.

In answer to the question of whether private or collective land ownership is least damaging to ecology, 7 of the 9 respondents indicated that private ownership is less damaging, while one farmer answered, “Everything depends on the owner, on [his]

understanding of his role in working the land”. Perhaps the most eloquent answer was given by 68-year-old farmer Volodymyr Pryjma, from the village of Kurovychi, who wrote:

Until the age of 16, I worked on my own land along with my family. We had 14 morgens [1 morgen = 2.116 acres] of fields. Of these, 8 morgens were plowed land, 4 morgens were meadows, 2 - sand and river. Today I would give away everything, to walk again for two months through my by-gone land. This was beauty, the land cared for. Especially the sand. No one dared to cut down anything unless it was dry.

The respondents varied in their opinions on the question of who should hold the most responsibility for care of the land: the individual farmer, or the oblast/national government. Four respondents indicated that the farmer should carry this responsibility himself, while one felt that the most responsibility lies with the national government, and 3 felt the responsibility should be shared. A note of optimism was sounded by one respondent, who wrote that “The government is approaching this positively, which is evidenced by the series of resolutions by the [parliament] of Ukraine, regarding the improvement of ecology in the country”.

## **3.2 Interview Research with Farmers**

### **3.2.1 Method**

In-depth personal interviews were conducted with two other farmers who own private farmland in the Zvenyhorod area: Jaroslaw Majovec’, age 40 (interviewed on Sept. 3, 2001), and Jaroslaw Kardash, age 37 (interviewed on Sept. 10, 2001). The purpose of the interviews was to provide in-depth data on environmental ethics attitudes toward agriculture and agricultural privatization, to supplement the data collected through

questionnaire research. Both interview respondents are members of a local association of private farmers, possess technical degrees, and had worked in a field unrelated to farming before agricultural privatization began in Lviv oblast in 1992.

The interviews included questions about what led the individuals to pursue farming; what obstacles they have encountered during the period of agricultural privatization; what environmental impacts (positive or negative) they have seen as a result of agricultural privatization in the Zvenyhorod area; and their attitudes about the farmer's role in caring for the land, and the environmental ethics of agriculture in general.

Both interviews were conducted in Ukrainian. Jaroslaw Majovec' was interviewed in his home, while Jaroslaw Kardash was interviewed next to his farmland during a break in farming activities.

### **3.2.1 Summary of Farmer Interviews**

#### *Interview with Jaroslaw Majovec'*

Jaroslaw Majovec', 40, is the owner of the *Pervoc'vit* ("First Flower") farm, and is also a member of the *Lvivsad* ("Lviv Orchard") orchard producers' association. He lives with his wife and children in the village of Sholomyjah, adjacent to Zvenyhorod. Majovec' originally worked as an engineer at an automotive plant, but began private farming in 1990, during the period of agricultural reforms started by former Soviet Premier Mikhail Gorbachev. At the time he began farming Majovec' was given 10 hectares (24.7 acres) of land. He now owns 20 hectares (49.4 acres) and leases an additional 5 hectares (12.35 acres), all in the vicinity of Zvenyhorod, on which he grows cabbage, potatoes, carrots, and other vegetables, as well as some fruit trees.

Majovec' considers one drawback of current land privatization in Lviv oblast to be the small size of land parcels being given to private land owners, which has effectively destroyed the former Soviet collective farm structures. Collective farms controlled about 450 hectares (1,111 acres) of land each, while private farms in the oblast today average about 20 hectares in size, he said. Majovec' said that he is not familiar with agricultural problems that existed during Soviet times, but feels that today the main problem facing farmers today is the poor quality of farming technology and materials, caused by the poor economic conditions in Ukraine.

To Majovec', private land ownership is the best means for encouraging the development of agriculture; he feels there is no alternative. Cooperation between farmers should exist, but this is not yet visible among Ukrainian farmers. He noted that animal husbandry is also being revived in Lviv oblast, as is orchard-keeping. Some apple orchards in the area are producing "ecologically clean" (i.e. organic) produce; the orchard keepers choose varieties which do not need much cultivation or tilling of the land.

However, "it is very difficult to talk about [organic farming] at the moment," Majovec' said, "because we do not have the requisite analyses, and nobody requires this, and no one pays more for this produce. To invest anything extra in it, this requires expenses, and manual work, and everything else."

Majovec' was part of the "Holland project", a cooperative local project between Ukrainian and Dutch farmers in the 1990s, which grew potatoes and some fruits in the area of Zvenyhorod. Seeds, technology, and agricultural experts were provided by the Dutch. Leasing of land for the project was paid for by the produce grown.

He noted that some of the farmers involved in this project used herbicides rather than manual weeding, and that some residue of these herbicides still remains on the land. According to Majovec', in Lviv oblast today there are no regulatory controls in effect for the use of herbicides, only for nitrates. Laboratories usually do analyses of produce quality only for nitrates, and analytical certifications of produce are required only beyond the borders of Lviv oblast and Ukraine.

"I try to approach the land... ostensibly," he said. "There were cases where I would weed two or three times manually, and totally not use any herbicides, simply because this is what worked out for me," he noted. "I try to use [herbicides] as little as possible, because they come out to be more expensive as well. I am not my own enemy – I myself eat the same" produce that I sell, he noted.

Majovec' continued on the subject of herbicides in farming. "Herbicides have their effect, and one must approach using them very carefully. I know some specialists who work [in farming], and for them everything seems to go very well", he said, recounting a conversation he had with another farmer:

Majovec': "How many hectares do you own?"

Other farmer: "I don't own any, I lease."

Majovec': "And next year?"

Other farmer: "Next year I will take [land] in a different place."

"I can't allow myself these kinds of things," Majovec said with a laugh. "I want to still have something for next year, and for the next, and for the twentieth, and for there still to be something for my children. I approach this very carefully and seriously."

Majovec' also displayed a strong sense of respect for the land which he farms, an attitude which he seemed to receive more from intuition and upbringing than from any

formal training in agriculture or ecology . “I try to care for the land, to preserve it, so that it will still produce for my children, and their children,” he said. “I was not taught any agricultural sciences, but I was taught at home that like a baby receiving its mother’s milk, one can be passed a love for the land, and respect [for it]. Although until age 35 I did nothing on the land, somewhere this was preserved, probably in my genes.”

This is “not just a philosophy, but practice, our life... We came from this land, and live off of it, and must care for it,” Majovec said.

#### *Interview with Jaroslaw Kardash*

Jaroslaw Kardash, 37, farms a total of 19 hectares (47 acres) of land on the outskirts of Zvenyhorod, where he lives with his wife and children. He holds a university graduate degree in botany, but chose not to pursue work in academia and turned to farming instead. His farm, which he registered with the regional government in 1992, produces beets, potatoes, and cabbage, and also has some fruit trees.

Like Majovec’, Kardash considers economic problems, specifically, the lack of a distribution and marketing network, to be the largest obstacle facing Ukrainian farmers. On the issue of environmental impacts from land privatization, Kardash is concerned that private farmers in Ukraine today do not have sufficient knowledge about proper farming techniques. He believes this is damaging the land, and he is deeply worried about this problem.

“I am becoming more and more opposed to having people become farmers by chance, or to have them go about it unprofessionally, he said. “We have today many people who consider themselves professionals because he, for example, worked his

whole life as a tractor operator, and now decides to take up agriculture. But this is not correct agriculture.

To look at how he works, how he does not know how to protect [the soil], let's say, what means of protection to take advantage of... what is more damaging and what is less damaging... what can be used, let's say, crop rotation, or [other] means of fighting known harmful factors. That is, the person is remote [from agricultural knowledge]... this is indeed a problem."

Kardash also expressed concern about the problem of soil depletion which farmers in Lviv oblast are facing. This too is related to the current economic conditions and to a lack of practical knowledge, in his opinion. "The amount of organic fertilizer available today is not satisfactory," he noted. "Before, there were large farms, large farm properties, and people kept some kind of cattle, but there was less land [per person]. Now they have, let's say, much land, but the number of cattle has not increased that much, so what is there to use as manure? That is, there are few sources of organic fertilizers. There is a need to use green manure, or [chemical] fertilizers, but to regulate their use so that they do not damage the quality of produce with excessive nitrates, etc. But then again, no one knows this."

Kardash said that he and four other local farmers visited Holland in 1994, as part of an agricultural exchange program. He stated that the Ukrainian farmers were "pleasantly impressed" by the fact that every future farmer in Holland cannot begin working the land if he does not finish specified agricultural courses, and does not pass appropriate exams.



“In Ukraine there should be courses and exams for everyone, who wants to carry out farming, but this does not exist today – there is no such law,” Kardash said. “This is not good, because farming is not being conducted properly. This will not lead to anything good: to annually sow wheat... on depleted soils... when, after the *radhosp* and *kolhosp*<sup>3</sup>, they are already depleted, destroyed.”

Kardash also stressed the need to conserve agricultural soils as part of the current privatization process, in order to help ensure their fertility in the future. “Already now the Ukrainian *chornozem* (black soil) is not, let’s say, the *chornozem* of the 1940s,” he said. “... Today the amount of humus in the soil is low enough that we can talk in terms of the soil having been destroyed. It needs to be renewed, rehabilitated.”

“There should be some organic fertilizers, some system of crop rotation, etc.,” he added. “But we just plant weeds year after year, and because of this our productivity suffers.”

### 3.3 Discussion and Conclusions of Research with Farmers

A review of the questionnaire responses (Likert and open-ended items) and interview research with farmers in Lviv oblast indicated a generally high level of environmental awareness among the sample group about impacts to the land from agriculture, and from the ongoing land privatization process among the sample group. Questionnaire respondents tended to agree with attitude statements that farmers should care for the land both out of respect for nature, and as a means of continuing the livelihood of human farmers and future generations. From an environmental ethics perspective, this suggests

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<sup>3</sup> Radhosps and kolhosps were two forms of Soviet-era collective farms.

that the sample group may have attitudes toward nature which contain both anthropocentric and nonanthropocentric components. In addition, private land ownership was predominantly chosen as the means of land ownership most likely to result in better care for the land.

It is noteworthy that although the questionnaire items with the strongest agreement from the respondents reflected anthropocentric attitudes (i.e. agricultural reforms should increase the land's productivity as well as ecological health, and “if we care about nature, nature will care about us”), there was also strong agreement with the nonanthropocentric attitude statement that “Humans are just one part of a larger community, which includes living and non-living nature”, and strong disagreement with the statement that “Humans are masters over nature, and have the right to exploit it for their own purposes”.

These attitudes were generally consistent with responses to the open-ended questions, in which the farmers also supported the position that private ownership is less damaging to ecology than collective land ownership. In at least one case (that of 68-year-old farmer Volodymyr Pryjma), this attitude was directly attributable to his historical experience with private ownership of land, as part of the environmental history of that area. Information from the open-ended questions also showed concern on the part of the farmers about observed environmental damage to agricultural land from current privatization policies. Lack of knowledge about sustainable agriculture, and the overuse of small areas of land, were cited as the two main causes of this situation.

The results of in-depth interviews with two farmers in the village of Zvenyhorod further amplified this feeling of concern about land damage from inappropriate farming

practices. Farmer Jaroslaw Majovec' spoke at length about his opposition to the overuse of herbicides based on common sense, and the dangers such overuse can pose to human consumers. Farmer Jaroslaw Kardash emphasized a more technical approach, pointing out that soil quality (and fertility) in Lviv oblast has declined due to overuse of the land without replenishment of nutrients, and called for a system of regulatory exams and agricultural education for all prospective farmers. Although these concerns can be considered to reflect a primarily anthropocentric attitude toward the land, both farmers also appear to harbor a respect for humans and the land as part of one natural community. In this community, the performance of humans as caretakers of the land is directly related to the ability of the land to nourish future generations of humans. "We came from this land, and live off of it, and must care for it," Majovec' noted.

The field research methods used in studying farmer attitudes suffered from several limitations. Due to the small number of questionnaire respondents, the results of the questionnaire research cannot be evaluated with a high degree of statistical significance. Due to the logistics of the research study, the researcher was not present when the respondents filled out questionnaires, and thus was not able to further explain items which were unanswered or marked as "not understood" on the open-ended questions. (In particular, open-ended question number 3 – "Have you noticed any ecological problems/damages from land privatization?" – was left unanswered by three respondents, and noted by a fourth respondent as not understood.) Based on the response patterns, the design of the Likert item area of the questionnaire also seemed to temporarily confuse some respondents. In addition, most of the respondents were

members of a local farmers' association, and thus may have had more inherent interest in environmental concerns from land privatization than other local farmers.

Despite these limitations, however, the information gathered during the field research with farmers provides a starting point for measuring the attitudes of Ukrainian private farmers throughout Lviv oblast toward the environmental impacts of agricultural land privatization, and their ethical attitudes toward the land in general. Suggestions for future research in this area include increasing the total number of study respondents; expanding the study to include farmers and agricultural workers from the non-private as well as private sectors; expanding the study questions to focus on additional topics related to environmental ethics and agriculture; and expanding the geographic scope of the study to other Ukrainian oblasts, both in Western Ukraine and Eastern Ukraine, in order to gain data for comparative analysis of environmental attitudes between the two sections of the country, which possess differing environmental histories.

### **3.4 Research of Government Agricultural Policies**

Research into government policy regarding agricultural land privatization in Lviv oblast included an interview with Ihor Vuytsyk, a member of the Lviv Regional State Administration and the chief of the Center of Privatization and Agrarian Reform, which includes the Lviv Chamber of Agriculture. Vuytsyk was interviewed, in Ukrainian, in his office within the Lviv Regional State Administration building on September 4, 2001. Publications and regulations concerning land privatization issued by the the Center of Privatization and Agrarian Reform were also reviewed, as well as several summaries of national Ukarinian environmnetal regulations relating to agriculture.

*Summary of Interview with Ihor Vuytsyk*

Vuytsyk stated that as of September 2001, there were some 697 registered agricultural enterprises within Lviv oblast. The majority of these were collective partnerships of 3 to 5 individuals, which Vuytsyk described as a “transitional form” of farming between the former collective farms and individual privatized farms. Some 45 private farms existed in Lviv oblast as of September 2001, and most of these were started with about 10 hectares of land.

Vuytsyk pointed out that the chief goal of the Center of Privatization and Agrarian Reform (CPAR) and the Lviv Chamber of Agriculture (LCA) is to find answers to the question, “How can the land owner be protected?”. He noted that the LCA was formed in 1998 specifically to meet the needs of small landowners, and as of September 2001 had a total of 340 members, who represent various agricultural enterprises. The LCA also administers the distribution of land shares to individuals who are entitled to them according to Ukrainian national and regional law, such as to former employees of state collective farms. More than 10,000 individuals within Lviv oblast had received such shares as of September 2001, according to Vuytsyk. He sees this process as a “rebirth” of the system of private land ownership, and agricultural cooperatives, which existed in the Lviv area through 1939. Vuytsyk said that 51 new cooperatives had been created in the oblast as of September 2001, and that he feels such organizations are “essential” to the economic life of the village. In addition, the LCA provides credits to farmers through its own credit association, and as of September 4, 2001 had given credit to 55 agricultural enterprises within the oblast.

On the subject of environmental issues related to agricultural privatization, Vuytsyk stated that there is a “large potential” for ecologically clean (i.e. organic) production within the oblast. He noted that farmers can receive regional government certifications that their produce is organic, based on environmental testing of their soil and produce, and can charge higher prices for such produce as a result. “There is a part of the government that is *supposed* to monitor the quality of the soil,” Vuystyk noted, and said that the regional government provides soil type maps and soil analyses to farmers who request them. But he added that a sense of responsibility for protecting the quality of the soil and land does not yet exist on the part of most farmers within the oblast. This may be addressed through additional environmental regulations in the future.

#### *Review of Government Publications*

The concept of environmentally friendly agriculture, and conservation of agricultural land, is supported by several national Ukrainian agricultural regulations. One summary of these regulations (*Agrarian Laws of Ukraine*, Urinkom Inter: Kyiv, 2000) includes the following requirements for land owners:

The system of effective use of the land and other natural resources should have a nature-protecting, resource-conserving, sustainable character and should foresee the conservation of soils, [and] the minimization of negative impacts on them, as well as on the plant and animal worlds, geological formations, water resources, and other components of the natural environment.

Land owners are required... to protect and increase the productivity of soils, conserve soils from water and wind erosion, salting, flooding, becoming muddy ... pollution with the wastes of production, chemical and radioactive substances, and to protect the soil from other ruinous processes (p. 287).

This source also states that village farmers have a right to the use of common natural resources, including waters and forests (p. 283).

On the regional level, the LCA and other local agricultural institutions distribute a number of publications (including handbooks, brochures, and newsletters) to private farmers, the goal of which is to encourage private farming, inform farmers about government resources which are available, and educate farmers about environmental regulations and their responsibilities as land owners. A review of several such handbooks indicated that they often encourage agricultural techniques which minimize impacts to the environment, and discuss the need to care for the land as part of the natural community, of which the farmer is a member.

For example, the handbook "*Poradnyk ukraiins'komu gazdi*" (Advisor for the Ukrainian [Land] Proprieter), published by the LCA in 2002, describes the organization of the traditional Ukrainian farm household and its buildings, noting that architectural features of the traditional Ukrainian village tended to “‘grow’ into the natural surroundings”. The villager would locate his buildings by taking into account “the movement of the sun, the prevailing direction of the wind, and the character of the landscape, in this way connecting the ensemble [of buildings] with the environment” (p. 8).

The handbook also summarizes the rights of the private land owner, and points out that land owners should abide by all environmental regulations, and “effectively make use of the land, increase its productivity, utilize nature-protecting technologies of production, and not allow a worsening of the ecological state of the territory as a result of agricultural activities” (p. 130). Another handbook ("*Praktychni porady a*

*vyroshchuvannia zernovykh ta zernobobovykh kul'tur*" – Practical Suggestions for the Growing of Grain Cultures – by Vasyl Lykhovchor, Lviv National Agrarian Institute, 2001) suggests that when battling weeds, farmers should first make use of “agrotechnical” (i.e. non-chemical) methods of weeding when at all possible, and apply herbicides only if such natural methods fail (p. 15).

### **3. 5 Summary of Government Policy Research**

The review of regional agricultural privatization policies in Lviv oblast indicated that environmental issues (at least in theory) are included as a component of these policies. There is a government mechanism in place to certify produce as “ecologically clean” (organic), although this practice has not yet been accepted by the majority of farmers because of its economic cost. The regional government is also involved in encouraging soil conservation and agricultural practices which have a low impact to the environment. This is pursued by providing soil testing resources to farmers, and by issuing publications which outline environmental regulations and explain some principles of sustainable agriculture.

However, the regional government admits that widespread cooperation with existing environmental regulations, and a sense of responsibility for the land, is not yet the rule for the majority of private farmers in Lviv oblast, and that additional regulations may be needed to help enforce such principles.



## CHAPTER 4

### DISCUSSION OF FINDINGS

The results of the environmental history and ethics research for this study showed that because of its environmental and political history, Western Ukraine, and specifically Lviv oblast, was particularly receptive to the agricultural land reforms which began throughout Ukraine in the early 1990s, after the country's independence from the former Soviet Union in 1991. Interrupted periods of private land ownership existed in Western Ukraine from early medieval times, and throughout its history as part of the Polish-Lithuanian Commonwealth, the Austrian Empire, and later Poland in the early 20<sup>th</sup> century. These historical circumstances made private ownership and care of agricultural land a distinct part of the environmental history of the study area, Lviv oblast. However, political factors also led to severe land shortages during periods of Western Ukrainian history, and to the overuse of agricultural land as a result.

After 1939, when Western Ukraine was first occupied by the Soviets, collective ownership of agricultural land by the state was introduced and enforced upon the population, and lasted for some 52 years. As part of present-day land reform measures, many of the agricultural institutions present in Western Ukraine up to 1939 are being revived, including private farms and agricultural cooperatives.

The environmental history of one village within Lviv oblast, Zvenyhorod, was explored on the local level during field research in Ukraine in September 2001. The results of this research showed that Zvenyhorod reflected many of the historical periods of agricultural land ownership in Western Ukraine during its recorded history, from the

founding of the village as a medieval town in 1087, until the onset of the privatization of its state-owned collective farms in the 1990s.

From an environmental ethics perspective, traditional Ukrainian attitudes toward nature, which developed from the country's long agricultural history, stressed a strong sense of attachment to the land and a deep respect for the natural environment. These beliefs also regarded the health of the human and non-human communities as being directly related. Such beliefs were prominent in the works of several Western Ukrainian writers of the 19<sup>th</sup> century, which were reviewed as part of this study. Although severely attacked during the Soviet period, traditional Ukrainian ethical attitudes toward care of the land also appear to be reviving as part of land privatization efforts.

It is believed that this regional environmental history has played a role in the present-day perceptions about the environment among private farmers in Lviv oblast. The results of field research conducted in Lviv oblast and in Zvenyhorod in September 2001 indicate that farmers in this area have a generally high level of awareness about environmental impacts from agriculture, specifically from the ongoing land privatization process. In particular, interest was shown in "ecologically clean" (organic) agricultural production as a possible future direction for private agriculture in Lviv oblast. Sampled farmers tended to agree with questionnaire statements that humans should care for the land both out of respect for nature, and as a means of continuing the livelihood of human farmers and future generations. Such attitudes toward nature can be considered to have both anthropocentric and nonanthropocentric components.

Private ownership was predominantly chosen by the farmers researched as the means of land ownership most likely to result in better care for the land. In at least one

case this attitude was directly attributable to a personal historical experience with private ownership of land, during the early 20<sup>th</sup> century. Information from the field research also showed concern on the part of the sampled farmers about observed environmental damage to the land from current privatization policies, due to lack of knowledge about sustainable agriculture and because of overuse of small land areas.

These themes were reinforced during personal interviews with two farmers who own land in Zvenyhorod. These farmers discussed opposition to the overuse of herbicides based on its dangers to humans and the environment, and expressed concern about the decline of soil quality because of the overuse of land. "We came from this land, and live off of it, and must care for it," farmer Jaroslaw Majovec' stated. A system of regulatory exams and agricultural education for all prospective Ukrainian farmers was also proposed.

Several of these environmental issues are addressed in national Ukarianian agricultural regulations, and are also being addressed by the Lviv regional government as part of its agricultural privatization policies for the oblast. A review of these policies showed that environmental issues are being included as a component of educational campaigns by the regional government. Publications which are part of these campaigns include information on principles of sustainable agriculture and soil conservation. The government hopes that such educational campaigns will increase cooperation by private farmers with existing Ukrainian environmental regulations, and with principles of wise land use.

## **CHAPTER 5**

### **SUMMARY**

This thesis research attempted to answer the question, “Can an area’s environmental history, including environmental ethics, be an influencing factor on agricultural land use, when political and economic factors allow it to be?” The expected results of this thesis were that the local environmental history of the study area would have an impact on current agricultural land use, and that environmental ethics could be an influencing factor in this process.

The results of this study tend to support these conclusions. Based on information from a sample of private farmers in Lviv oblast within Western Ukraine, memories of the area’s long history of private land ownership were not eliminated during the more than 50 years of collective land ownership by the Soviet state. Farmers who were part of this study included some individuals who still remembered private land ownership before 1939, as well as individuals who were born after this date. However, the majority of the sampled farmers still see private ownership of land as more beneficial to both humans and the environment than collective ownership. The majority of the sampled farmers also displayed attitudes towards the land, as part of the natural community, which are consistent with traditional Ukrainian ethical attitudes toward nature. The greatest obstacle for these private farmers (as for other Ukrainian citizens) is currently the country’s poor economic performance, and a lack of full land privatization. A new national land code enacted in October 2001 may help to better this situation.

The generally high level of environmental awareness displayed by the sampled farmers, the apparent support for more-widespread organic farming, and regional

government education policies which strive to encourage sustainable farming techniques all seem to bode well for the environmental future of agriculture in Lviv oblast. Thus, environmental history and ethics may continue to be an influencing factor on agricultural land use in the area, assuming that political and economic factors allow private agriculture to flourish.

## APPENDIX A

### TABULATED QUESTIONNAIRE RESULTS

This appendix contains the results of the field research questionnaire responses.

<b>RATING SCALE:</b>	Completely disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Completely agree
	1	2	3	4	5

1) Agricultural reforms should increase the land's productivity, but also safeguard its ecological health.

Farmer 1	5
Farmer 2	5
Farmer 3	5
Farmer 4	5
Farmer 5	5
Farmer 6	5
Farmer 7	4
Farmer 8	5
Farmer 9	5
<b>Average (mean)</b>	<b>4.89</b>
<b>Std. Deviation</b>	<b>0.33</b>
<b>Margin of error (95% confidence)</b>	<b>0.26</b>

2) Increasing the productivity of the land is more important than its ecological health.

Farmer 1	4
Farmer 2	1
Farmer 3	5
Farmer 4	4
Farmer 5	4
Farmer 6	3
Farmer 7	1
Farmer 8	1
Farmer 9	5
<b>Average (mean)</b>	<b>3.11</b>
<b>Std. Deviation</b>	<b>1.69</b>
<b>Margin of error (95% confidence)</b>	<b>1.30</b>

<b>RATING SCALE:</b>	Completely disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Completely agree
	1	2	3	4	5

3) We should care about the land, in order to safeguard it for future generations.

Farmer 1	5
Farmer 2	5
Farmer 3	1
Farmer 4	5
Farmer 5	5
Farmer 6	5
Farmer 7	5
Farmer 8	5
Farmer 9	5
<b>Average (mean)</b>	<b>4.56</b>
<b>Std. Deviation</b>	<b>1.33</b>
<b>Margin of error (95% confidence)</b>	<b>1.02</b>

4) Humans are masters over nature, and have the right to exploit it for their own purposes.

Farmer 1	No answer
Farmer 2	1
Farmer 3	1
Farmer 4	1
Farmer 5	5
Farmer 6	1
Farmer 7	1
Farmer 8	1
Farmer 9	2
<b>Average (mean)</b>	<b>1.63</b>
<b>Std. Deviation</b>	<b>1.41</b>
<b>Margin of error (95% confidence)</b>	<b>1.18</b>

<b>RATING SCALE:</b>	Completely disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Completely agree
	1	2	3	4	5

4A) If we will care about nature, nature will care about us.

Farmer 1	5
Farmer 2	5
Farmer 3	5
Farmer 4	5
Farmer 5	5
Farmer 6	4
Farmer 7	5
Farmer 8	3
Farmer 9	5
<b>Average (mean)</b>	<b>4.67</b>
<b>Std. Deviation</b>	<b>0.71</b>
<b>Margin of error (95% confidence)</b>	<b>0.54</b>

5) Collective ownership of land is a better form of ownership than private ownership, with regard to ecological protection of land.

Farmer 1	1
Farmer 2	4
Farmer 3	1
Farmer 4	1
Farmer 5	1
Farmer 6	2
Farmer 7	1
Farmer 8	2
Farmer 9	2
<b>Average (mean)</b>	<b>1.67</b>
<b>Std. Deviation</b>	<b>1.00</b>
<b>Margin of error (95% confidence)</b>	<b>0.77</b>



<b>RATING SCALE:</b>	Completely disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Completely agree
	1	2	3	4	5

6) In the past 10 years, I think that ecological protection of the land has improved.

Farmer 1	1
Farmer 2	1
Farmer 3	5
Farmer 4	4
Farmer 5	1
Farmer 6	2
Farmer 7	2
Farmer 8	4
Farmer 9	4
<b>Average (mean)</b>	<b>2.67</b>
<b>Std. Deviation</b>	<b>1.58</b>
<b>Margin of error (95% confidence)</b>	<b>1.22</b>

7) Humans are just one part of a larger community, which includes living and non-living nature.

Farmer 1	4
Farmer 2	5
Farmer 3	5
Farmer 4	5
Farmer 5	5
Farmer 6	4
Farmer 7	5
Farmer 8	4
Farmer 9	No answer
<b>Average (mean)</b>	<b>4.63</b>
<b>Std. Deviation</b>	<b>0.52</b>
<b>Margin of error (95% confidence)</b>	<b>0.43</b>

<b>RATING SCALE:</b>	Completely disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Completely agree
	1	2	3	4	5

8) If the land is fully privatized, the ecological state of the land will improve.

Farmer 1	5
Farmer 2	5
Farmer 3	5
Farmer 4	5
Farmer 5	5
Farmer 6	4
Farmer 7	5
Farmer 8	No answer
Farmer 9	4
<b>Average (mean)</b>	<b>4.75</b>
<b>Std. Deviation</b>	<b>0.46</b>
<b>Margin of error (95% confidence)</b>	<b>0.39</b>

9) Farmers bear the most responsibility for ecological protection of the land.

Farmer 1	5
Farmer 2	4
Farmer 3	5
Farmer 4	5
Farmer 5	5
Farmer 6	4
Farmer 7	1
Farmer 8	5
Farmer 9	2
<b>Average (mean)</b>	<b>4.00</b>
<b>Std. Deviation</b>	<b>1.50</b>
<b>Margin of error (95% confidence)</b>	<b>1.15</b>

<b>RATING SCALE:</b>	Completely disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Completely agree
	1	2	3	4	5

10) The government bears the most responsibility for ecological protection of the land.

Farmer 1	5
Farmer 2	2
Farmer 3	5
Farmer 4	5
Farmer 5	5
Farmer 6	1
Farmer 7	2
Farmer 8	1
Farmer 9	1
<b>Average (mean)</b>	<b>3.00</b>
<b>Std. Deviation</b>	<b>1.94</b>
<b>Margin of error (95% confidence)</b>	<b>1.49</b>

11) Ecological issues should be included in government policies towards the land.

Farmer 1	5
Farmer 2	5
Farmer 3	5
Farmer 4	5
Farmer 5	5
Farmer 6	1
Farmer 7	5
Farmer 8	4
Farmer 9	5
<b>Average (mean)</b>	<b>4.44</b>
<b>Std. Deviation</b>	<b>1.33</b>
<b>Margin of error (95% confidence)</b>	<b>1.02</b>

**Answers to Open-Ended Survey Questions**

- 1) Are agricultural reforms (land privatization) taking place in your village/town?  
What are the biggest obstacles to privatization?

<b>Farmer Number</b>	<b>Answer</b>
1	In my <i>rajon</i> (county), agricultural reforms are going on.
2	There are no obstacles. There is a less-than-complete understanding of laws relating to privatization.
3	As a result of feeble agricultural reforms, the land is being overgrown by weeds.
4	There is no law regarding the purchase/selling of land.
5	No [reforms are occurring]. National politicians [are the biggest obstacles].
6	Privatization] is taking place.
7	[Question unanswered]
8	They are taking place! Little understanding of [agricultural] work on a local level, from the side of the national government!
9	[Question unanswered]

- 2) Will privatization of the land lead to a better state of the land, in your opinion?

<b>Farmer Number</b>	<b>Answer</b>
1	Yes, privatization will help to improve the land.
2	When the land becomes owned, the land owner will care for it as his own.
3	Yes. But the reforms should produce results. A villager should have a DEED for his parcel, [with boundaries] indicated in place. The financial-banking systems and mortgages should be favorable to the farmer. A market should be available for this year's production. In other words, the entire infrastructure should work towards allowing normal [agricultural] working conditions.
4	Yes.
5	It will bring this.
6	It will lead to this.
7	Yes.
8	Yes.
9	Yes

- 3) Have you noticed any ecological problems/damages from land privatization? If so, please describe them.

Farmer Number	Answer
1	No, I have not noticed any.
2	In the course of land privatization, the <i>oblast</i> (regional) system [of managing the land?] has fallen away, and the parceling to land owners has made its exploitation and care more complicated.
3	Today's privatization, in the form that it is in, will cause the degradation of land resources. Less humus is being mixed into the soil through cultivation technology. The land became unfit for agriculture not because of obstacles, but because of [overuse] for 7 to 8 years, and other such reasons.
4	[Question unanswered]
5	The question is not understood.
6	No.
7	[Question unanswered]
8	[Question unanswered]
9	Overgrowth by weeds.

- 4) Should "ecologically clean" agricultural production become the norm for Ukrainian farmers? If so, should the government support such production?

Farmer Number	Answer
1	Yes, ecologically clean production will become the norm for Ukrainian farmers.
2	Agro-chemical services / ministries will designate "ecologically clean" zones, in which appropriate agriculture should be conducted, with normal agriculture on remaining lands.
3	This is obligatory!!! And not just the government [should support it].
4	Yes.
5	Yes.
6	There should be ecologically clean production, and the government should support such production.
7	Yes. The government should support such production.
8	No.

- 5) Which form of land ownership is the least damaging to ecology, in your opinion: private ownership, or collective ownership?

Farmer Number	Answer
1	Private ownership is the least damaging.
2	Everything depends on the owner, on [his] understanding of his role in working the land.
3	Until the age of 16, I worked on my own land along with my family. We had 14 morgens of fields. Of these, 8 morgens were plowed land, 4 morgens were meadows, 2 - sand and river. Today I would give away everything, to walk again for two months through my by-gone land. This was beauty, the land cared for. Especially the sand. No one dared to cut down anything unless it was dry.
4	Private ownership.
5	Collective
6	Private ownership.
7	Private.
8	Private.
9	Private.

- 6) Who has the most responsibility for protection of the land: the farmer himself, or the oblast/national government? How does the government today approach ecological problems related to the land?

Farmer Number	Answer
1	The most responsibility should be placed on the national government.
2	The responsibility should be shared. The government is approaching this positively, which is evidenced by the series of resolutions by the [parliament?] of Ukraine, regarding the improvement of ecology in the country.
3	Yes, the farmer should be fully responsible for preservation of the land. But the government ... should also assist the farmer with his many pains/troubles. For certainly the farmer is long-suffering.
4	The farmer himself.
5	The farmer [and] the governments.
6	The farmer.
7	[Question unanswered]
8	The farmer.
9	The farmer himself.

**Information on Farmers Who Completed Research Questionnaires**

<b>Farmer No.</b>	<b>Name</b>	<b>Area of Education</b>	<b>Sex</b>	<b>Age</b>	<b>Location of Farm Within Lviv Oblast</b>	<b>Date of Survey</b>
1	Ivan Bas	Engineering	M	N.g.	Dobrechyn village, Sokolovs'kyj rajon (county)	9/24/01
2	O. Kotiash	Agronomy	M	55	N.g.	N.g.
3	Volodymyr Pryjma	Technical education	M	68	Kurovychi village, Zolochivs'kyj rajon	9/24/01
4	Petro Lozynskyj	N.g.	M	43	Kobro village, Sambirs'kyj rajon	9/24/01
5	Stepan Paciukh	N.g.	M	36	Drohobyc'kyj rajon	9/27/01
6	Vasyl Pelynec	Engineer-mechanic	M	N.g.	Radekhivs'kyj rajon	9/27/01
7	Ihor Lushchyk	N.g.	M	42	Zhovkivs'kyj rajon	9/27/01
8	Volodymyr Reger	Engineering	M	N.g.	N.g.	N.g.
9	Hanna Vojtovych	Psychology	F	46	Kem.-Buzhkyj rajon	9/27/01
<b>Average (mean) age:</b>				<b>48.3</b>		

**Notes:**

1) Survey questions were answered by farmers individually between 9/24/01 and 9/27/01, and returned to the researcher by mail.

2) N.g. = Not given

**APPENDIX B**  
**PHOTOGRAPHS**

This appendix contains photographs taken during the field research in September 2001.



**Photograph 1.** General view of the village of Zvenyhorod, Lviv Oblast, Ukraine.



**Photograph 2.** Plaque in the Zvenyhorod Historical Museum, with scenes of medieval agriculture and the historical town fortress.





**Photograph 3.** Historical agricultural tools on display in the Zvenyhorod Historical Museum, Lviv Oblast, Ukraine.



**Photograph 4.** Farmer Jaroslaw Majovec.

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