

## **IMPLEMENTING SUSTAINABLE TRADE PRINCIPLES ON THE UKRAINIAN FOREST ENTERPRISES: BUSINESS AND CONSUMER PERSPECTIVES**

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### **INTRODUCTION**

The paper examines environmental, economic and social effects (both positive and negative) of international trade of Ukrainian forest enterprises in the context of global consent of environmental issues. International trade is viewed in terms of its ability to promote or undermine sustainable forest management in Ukrainian forests. Principles for the development of forest enterprises' trade system are view through the terms of sustainability and responsibility.

Given research is the first stage in the planned investigation, so it is concentrated only on the State forest enterprises of Lviv district. Consumer interviews were also focused on the population of Lviv district.

Data concerning Lviv district State forest enterprises' trade were received by interviewing (with the help of questionnaire developed by our owns) of these enterprises' managerial personnel. The questions referred to production, sales and export volumes, geography and commodity composition of export, concerns of managerial personnel about environmental problems in forestry and their viewpoints on forest ecological certification and sustainable forest management.

Information about consumers' attitude towards national and imported secondary processed forest products (parquet, wood panels, furniture, etc) and also their awareness of environmental problems and importance of ecological certificate for them.

Tendencies in forest products demand and supply and thus in trade are effected greatly by the changes both on industrial and whole-society level. Developed countries, developing countries and countries in transition face different obstacles and opportunities caused by the changes on corresponding forest products markets. The main changes in developed countries are: creation of brand-new products with environmentally sound features, implementation of new processing technologies (including waste processing, recycling, use of plantation timber) use sustainable forest management principles (certification, eco-labelling). The later two are becoming the sort of non-tariff barrier for trade. The research deals also with investigation of possible impact of such tendencies on Ukrainian forest industry development and particularly on foreign trade of these enterprises.

### **BASIC TENDENCIES ON THE WORLD MARKET OF FOREST PRODUCTS**

Forest industry is one of the most interesting for research activities due to its complexity, diversity, prevalence in the world scale and essentiality for any economy. Ukraine has a great potential for forestry industry development and thus for gaining profits from this industry. The problem is how to manage it keeping in touch with the world forest industry development tendencies, to define the most essential factors of influence, to comply with world requirements and standards.

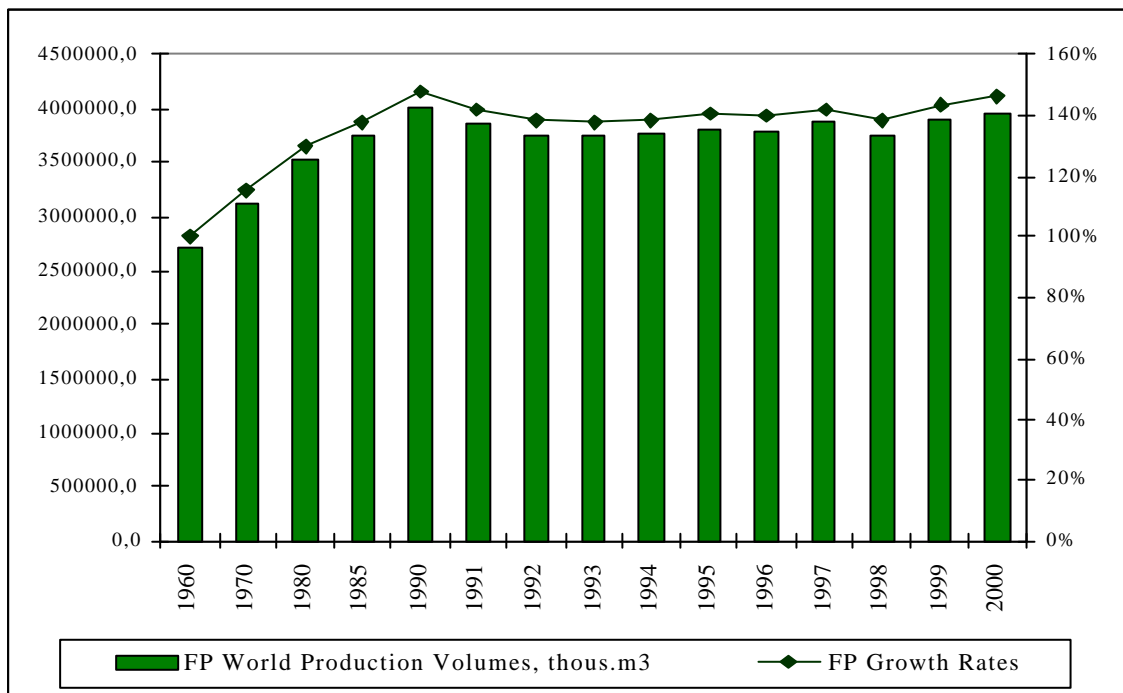
While economic tendencies become more and more internationalized and global, it is the issue of vital importance for any country to investigate them and consider them for the development of national industries. None of the economies is isolated from others in world, there is always an interrelation among them. As far as Ukraine is looking forward the integration into the world society and thus the government should persuade the priorities of global development and consider the changes on world market.

Forest industry products, production volumes, market conjuncture, pricing and other indices are interrelated with changes in world forest area in a defined period, ecological situation and, accordingly, international and national policy of certain countries in forest management. Economic,

political, demographic, social and, from recent times, ecological tendencies direct the forest management processes and form corresponding institutes.

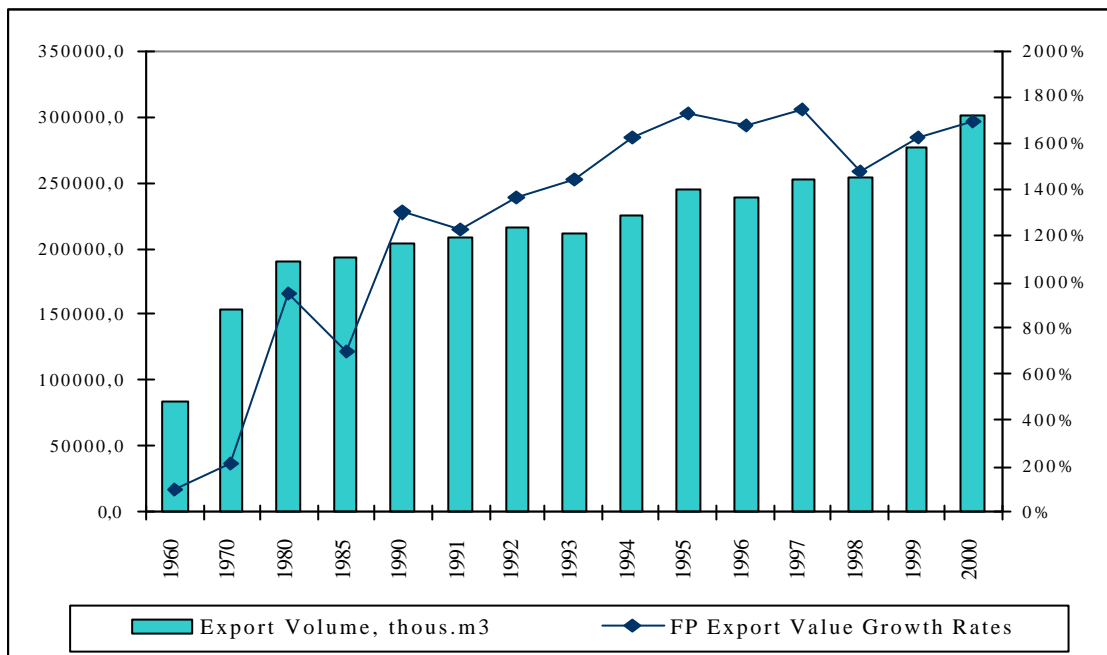
Forest area, including natural forests and plantations, stated approximately 3.454,00 mln ha in 1995. A little more than a half was in developing countries. We can observe continuous decrease in forest area. Thus, during 1990-1995 the overall loss in forest area was estimated as 56,3 mln ha (mostly in developing countries).

Though forest area is diminishing, the demand for forest products is continuously increasing. FAO Statistics shows that world consumption of forest products increased by 50% compared to 1961. The largest consumption volumes were noticed in 1989-1990 – they overcame the level of 4 billion cubic meters (figure 1). One of the most important tendencies is the development of more efficient processing technologies, allowing considerable incline in production volumes with simultaneous decline in raw materials consumption. But as we can see, the production and consumption volumes are declining since 1990. This is linked with environmental awareness and substitution of wood with non-wood materials, such as plastic, metal and other constructions. But still consumption rates remain high.



**Fig. 1. Forest products consumption volumes and growth rates (1960=100)**

Trade is a major activity in the economy of the forest and forest products sector. This statement can be proved by the data of trade volumes growth rate for the last 40 years (figure 2).

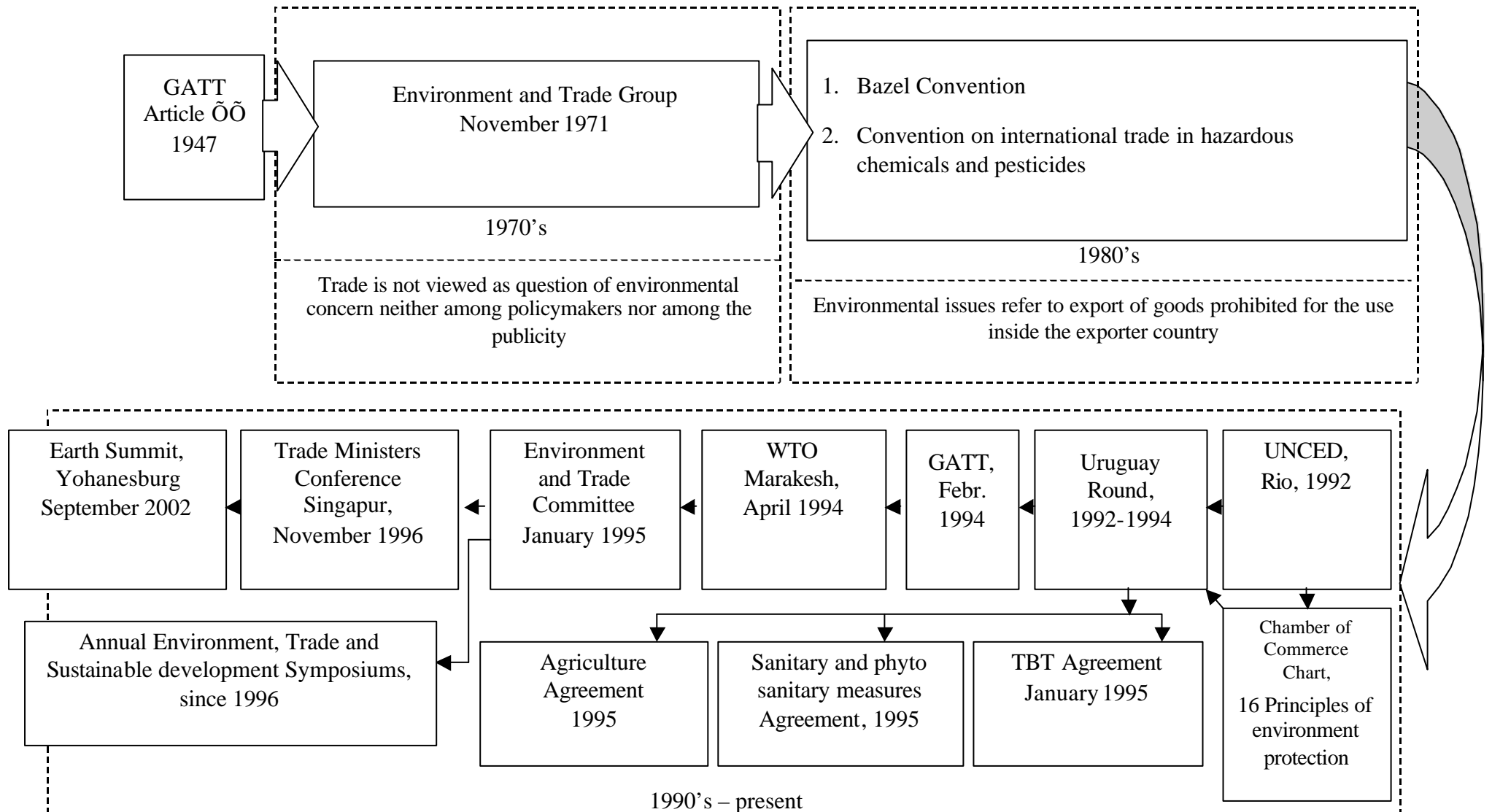


**Fig. 2. Forest products export volume and growth rates of export value (19960=100)**

In 2000 value of forest products increased almost to the point of \$50 billion. But as we can see export value has increased more sharply than export volumes – accordingly 17 times and 3,6 times. And this shows the great rise in forest products prices.

Such an increase in world trade volumes causes a greater pressure on the world forests and thus greater concern of the society for protecting them. The debates on trade and deforestation and degradation of world forests interdependence have taken place on various international forums and are continuing now (fig. 3).





**Fig. 3. Stages of the world "trade-environment" debate**

The world forest market can be divided into several regional submarkets or sectors. They differ in the level of the forest supplement, quality and quantity demands, according to the trade practice, as well as according to the price levels. These differences of the regional markets are particularly shown in raw materials and lumber. The higher is the level of processing the lower is the difference of specific demands on these markets sectors; the closer are prices on different regional markets. The main regional sectors are North-American, Pacific and European.

As Ukraine is European country the major influence comes from Europe. Thus, it is wise to analyze European sector.

European market is characterized by average forest supplement. The region is self-sufficient to cover the demand of the economic development, but mainly they are expensive or do not result good quality in the products. Because of this the Western European countries import great volumes of high-quality raw materials and semi-processed materials besides a wide interstate goods range exchange. Europeans are disposed to pay high prices for them, even if they significantly exceed the prices for the products of their own production. In overall, including mutual trade, Europe accounts for approximately 40% of the forest raw materials, lumber and plywood world market; over 70% of the wood boards world market, over 50% of cellulose, paper and cardboard world market, however the growing part of these needs is being supplied by the exceeding growth of interstate trade in the region.

Scandinavian countries supply Europe with lumber, boards, massive cellulose-paper goods, Eastern European countries and CIS countries supply the region with raw materials and lumber, North America – with massive cellulose-paper goods, plywood, cheap building and expensive joining lumber, South America – with cellulose, cardboard; Africa – with precious tropical raw materials; South-Eastern Asia – with precious species lumber and plywood,. The largest importers of forest goods in Europe are Great Britain and Germany. They are followed, with a great disadvantage, by Italy and France which import.

Average prices here are rather high, although they are a little bit lower then those in the Pacific region. However, only suppliers of high-quality products who supplies large quantities of these products can expect such prices. Otherwise the exporter has to deal with a very tight competition with the local producers who would pay him less then deliberately more efficient and close, and better market knowing local firm. Basically, the European market is low monopolized in the field of forest products, its tariffs and other obstacles can be easily overcome in the case if the exporter does not restrain the interests of the local producers, for instance, sells by dumping prices. In this case he has to deal with well organized anti-dumping legislative mechanisms. Europe mostly exports expensive high-quality semi-processed goods.

The prices for roundwood and sawnwood in Europe has a cycling tendency with a period 7-12 years. The major shifts can be observed in sawnwood and wood-based panels pricing. We can see dependence between these two figures.

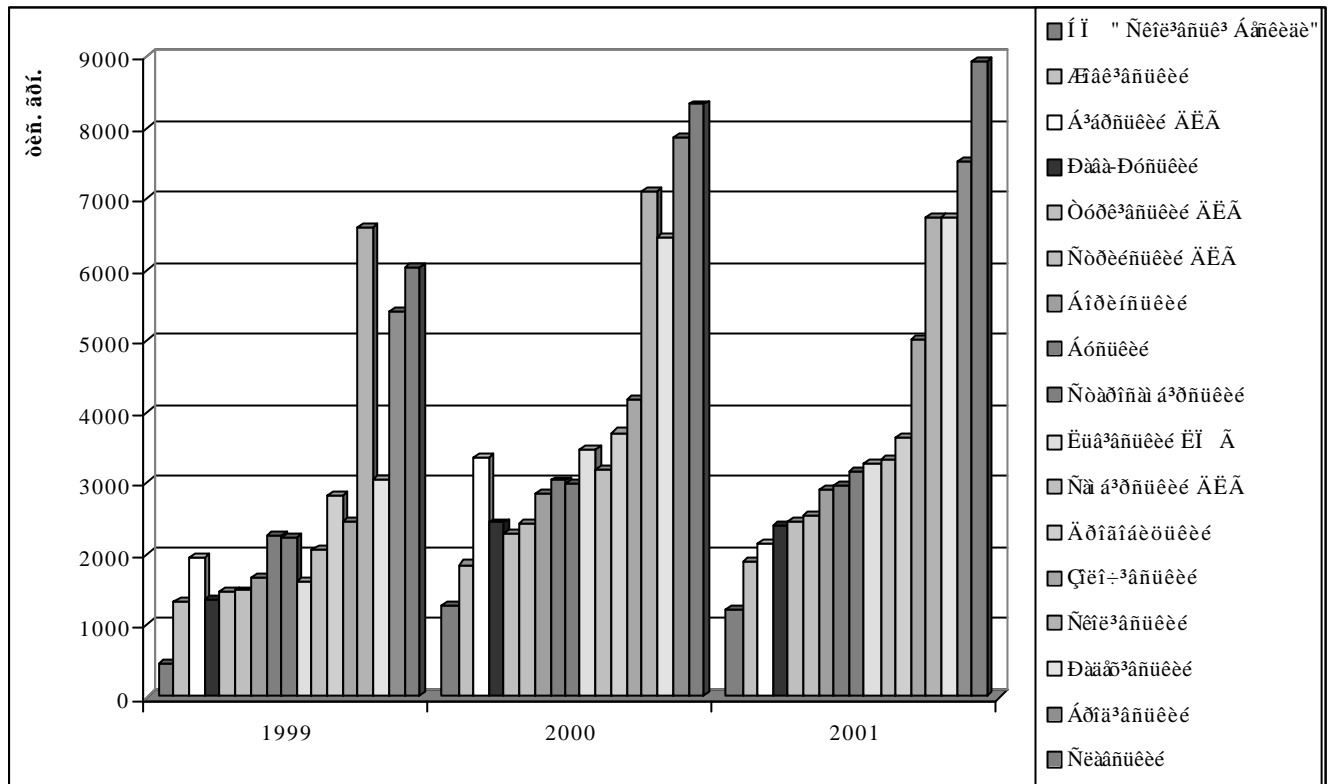
Since the beginning of 1990's environmental issues became of vital importance on European market. The most conscious countries are Great Britain, Germany, Italy, France and Scandinavia countries. Demonstration of environmental awareness has become visible since development of Forest certification procedure.

### **ANALISYS OF LVIV DISTRICT FOREST ENTERPRISES' ACTIVITY**

As it was stated above the research deals only with Lviv district forest enterprises, but this is the initial stage in the investigation covering the whole Ukraine.

15 State forest enterprises, one forest park and one national park “Skolivski Beskydy” are working on the territory of Lviv and Lviv district.

For the last tree years of investigation period production volumes of these enterprises are rising continuously (fig. 4).



**Fig. 4. Forest products production volumes of Lviv district forest enterprises (1999-2001)**

As we can see the major forest products producers are Slavske DLG, Brodivske DLG, Radekhivske DLG, Skolivske DLG, the shares of which in the overall production in 2001 was accordingly 13.2%, 11.2%, 10.1% and 10.0%.

Average prices for roundwood on the internal market during the invested period varied from 47 UHA to 115.1 UHA in 1999; from 59.9 UHA to 130.0 UHA in 2000 and from 59.3 UHA to 127.3 UHA in 2001. The prices for roundwood on the Ukrainian market in 2001 dropped by 5,1% compared to 2000 level. But prices for the higher value added forest products (sawnwood, parquet) have risen by 18,1%. Average prices for such products varied from 185 IHA to 342 UHA in 1999, from 185.5 UHA to 346 UHA in 2000 and from 242 UHA to 395 UHA in 2001.

Though in spite of the positive price changes we can observe negative shifts in the commodity composition. The major share in commodity composition of investigated enterprises belongs to low value added products – roundwood. Its share in overall production volumes increased from 82.6% in 1999 to 86.3% in 2001. Accordingly the share of higher value added products dropped from 17.4% to 13.7%.

During the last three years Lviv district State forest enterprises exported the following products: roundwood, sawnwood, pallets, parquet and some others. Export plays a very important role for the forest enterprises and thus its volumes and share in the overall sales volumes are rising continuously. Average share of export in sales volumes varies from 57% in 1999 to 58.4% in 2001. But several State forest enterprises export even more than 2/3rds of overall sales. For example, Skolivske DLG – 70%, Sambirskĕ DLG – 68.3%, Slavske DLG – 65%, Borynske DLG – 63.2%, National Park “Skolivski Beskydy” – 60.3%. Export volumes of three others enterprises exceeded a half of sales volumes (Brodivske DLG, Buske DLG, Zhovkivske DLG).

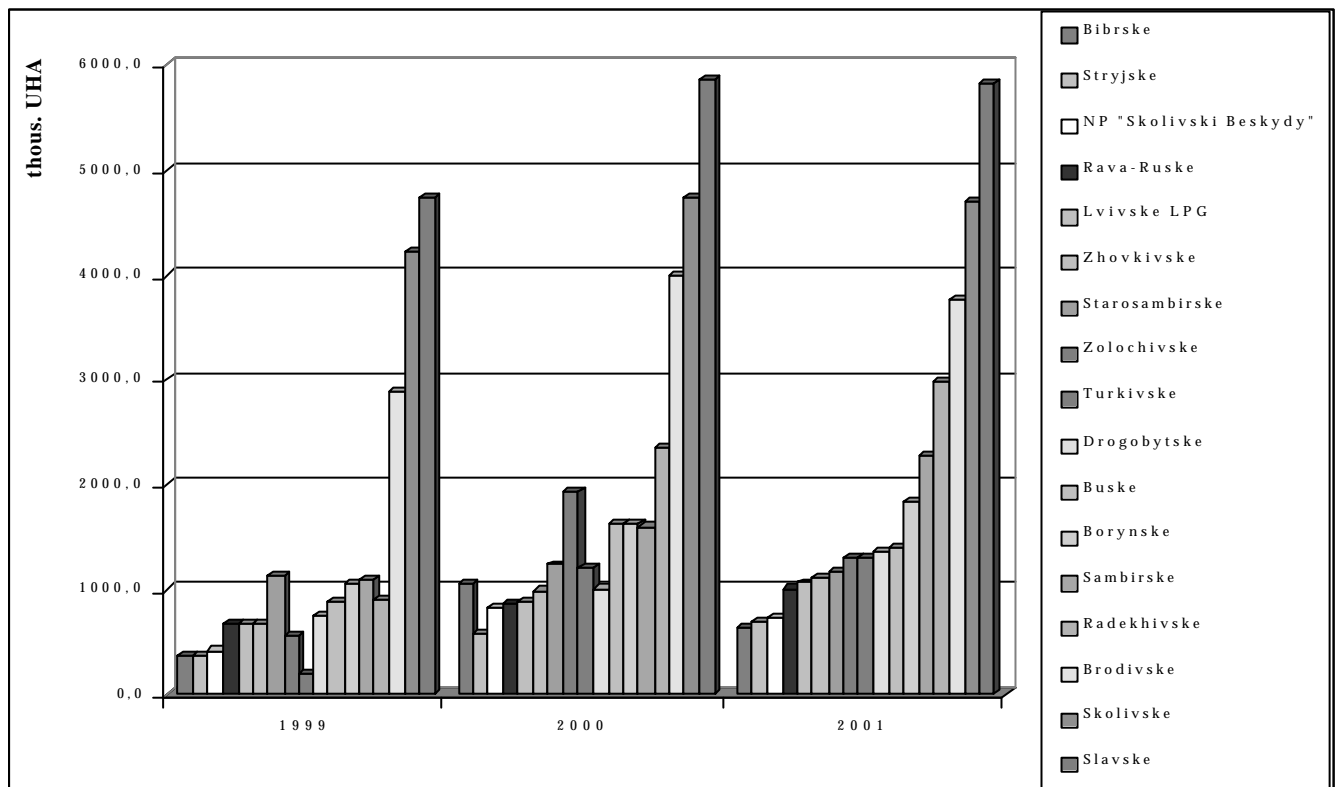
The major part in the sort composition belonged to the products made of coniferous species (56.4%), the share of hardwood species was also rather high – 40.2%.

Export prices are 2,5-3 times higher than prices on internal market. Thus, average export price for roundwood varied from 114.4 UHA (appr. \$22) to 329 UHA (appr. \$60) in 1999; from 162.7 UHA (appr. \$31) to 186.4 UHA (appr. \$37) in 2000; from 155.2 UHA (appr. \$30) to 304.7 UHA (appr. \$57) in 2001.

Export prices for forest products with higher value added were also higher and varied from 345.1 UHA (appr. \$66) in 1999 to 405 UHA (appr. \$76) in 2001.

Export commodity structure is much alike the one on the internal market – the share of less value added products reaches the level of 70-78%. Though the positive tendency is the decline of the mentioned index during the research period (from 78.5% in 1999 to 68.1% in 2001). Accordingly the share of higher value added products is increasing.

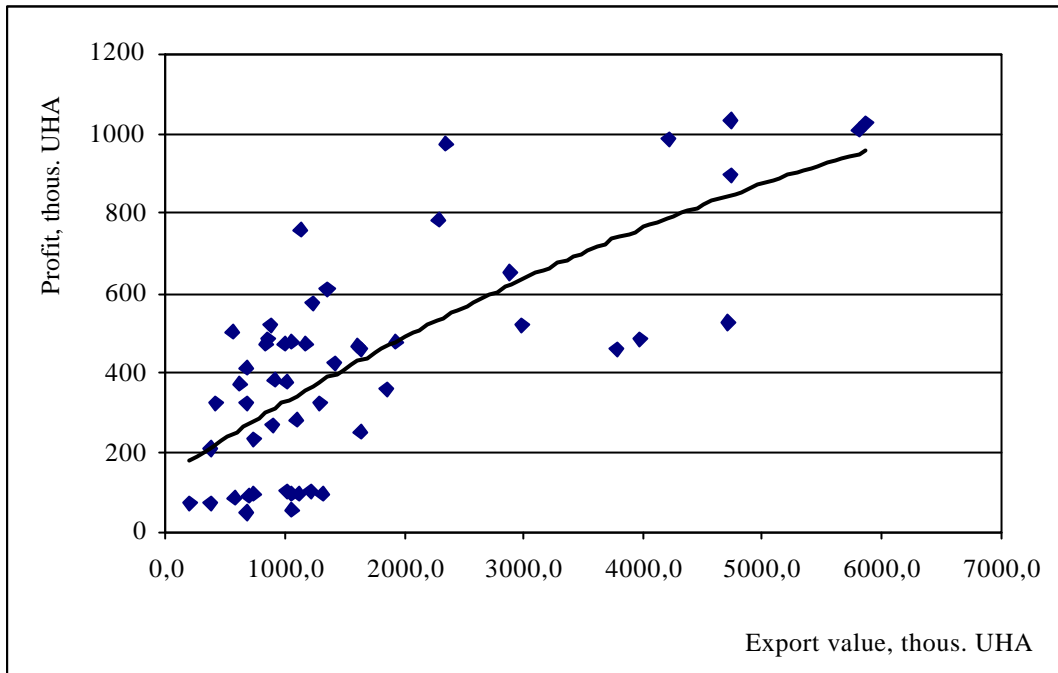
Major exporters of the forest products are Slavske DLG (17.5% of the overall export volumes), Skolivske DLG (14.2%), Brodivske DLG (11.4%) and Radekhivske DLG (9%) (figure 5).



**Fig. 5. Export value of Lviv district forest enterprises**

The importance of the further study of the problem of international trade improvement for State forest enterprises could be proved by the correlation analysis of export volumes and profit volumes interdependence. Thus, correlation ratio is 0.74, which states the tight and strong interdependence of these two factors.

Regression analysis was made considering the data of export volumes and profits of forest enterprises for the last three years (fig. 6).

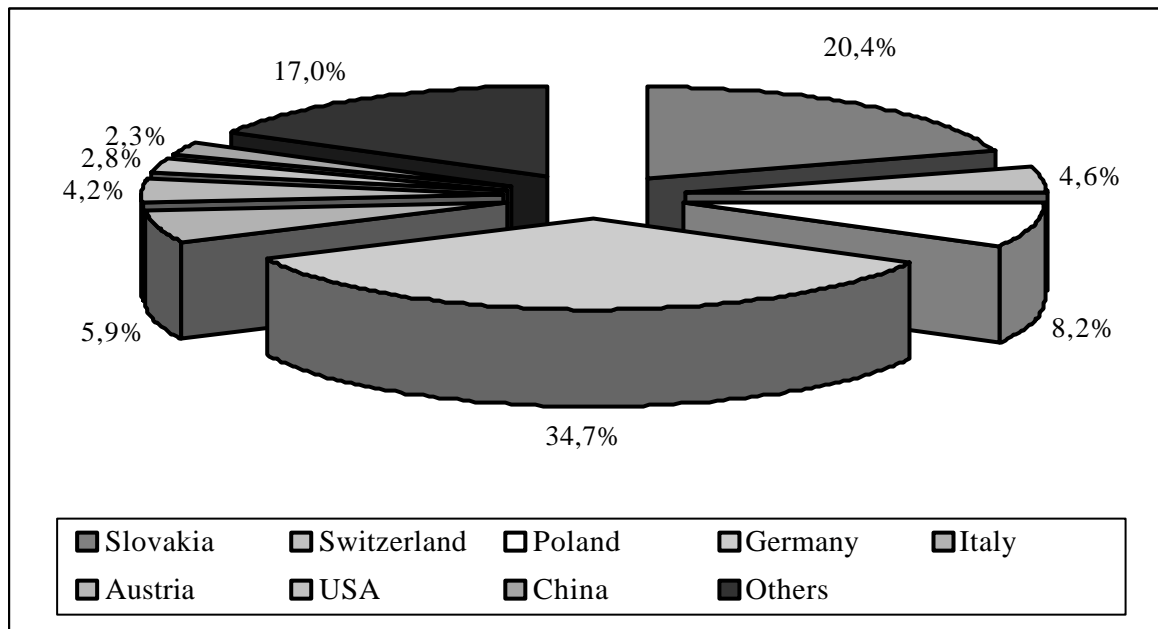


**Fig. 6. Regression analysis of export volumes and profits of Lviv district State forest enterprises**

The highest results of approximation ( $R^2=0.546$ ) ratio were observed in the binomial equation:

$$y = -0.00001 x^2 + 0.1916 x + 142.01$$

Analysis of geographic structure is also very important for further conclusions. The 2001 structure is presented on the fig. 7.



**Fig. 7. Geography of Lviv district State forest enterprises' export in 2001**

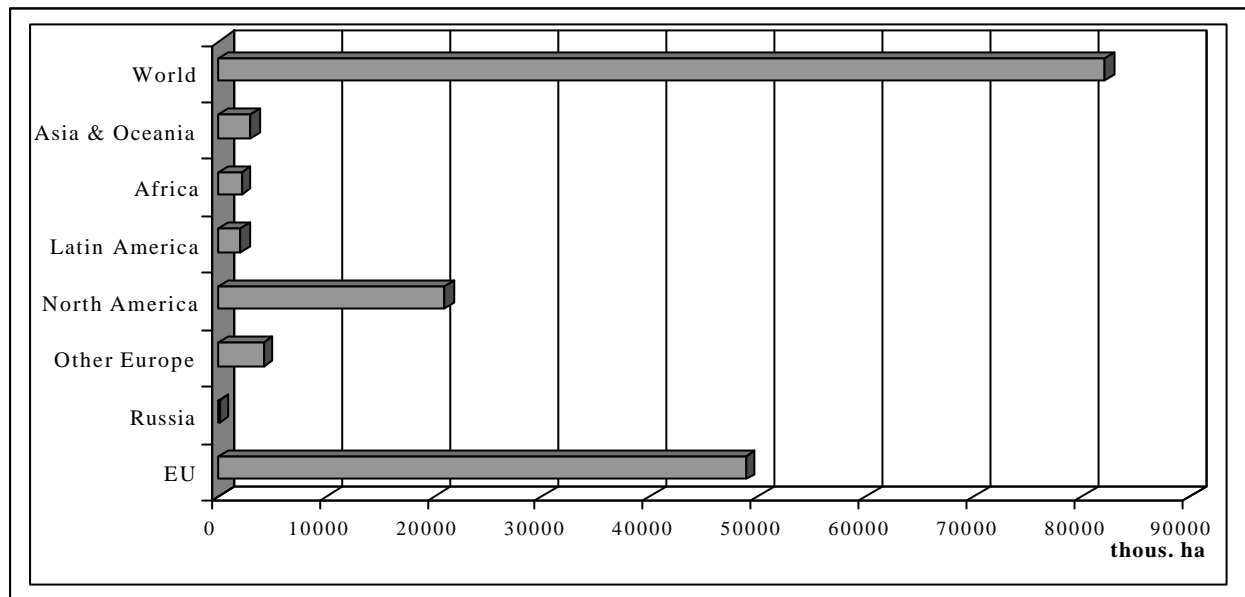
As we can see the main consumers of the Lviv district State forest enterprises are European countries and thus the changes on this very market are the most important effects for the further development of the international trade.

Also very important were the results of managerial personnel interviews concerning their viewpoints on the environmental issues in the forestry. Namely, the results showed that the majority is not familiar with the existing directions in sustainable forest management and ecological certification systems. Thus they are not willing to introduce this practice on their enterprise and are not willing to pay for this. Only four enterprises agreed that such measures are very important (and these are the major exporters) – Slavske DLG, Skolivske DLG, Drobytske DLG and National Park “Skolivski Beskydy”. They also mentioned such a benefit as maintenance of the Carpathians.

The results also showed that only one eco-certification system is familiar for the managerial personnel – FSC. Whereas Pan European Certification scheme is left completely beyond their attention. Negative is the response of the managerial personnel concerning the introduction of the SFM principles on their enterprises.

The evidence for the importance of the eco-certification in Europe is the positive tendencies. Europe remains the epicenter of the forest eco-certification (fig. 8) and demand for this kind is also rather high.

Different consumers' groups influence greatly the interest of forest products producers in eco-certification introduction. PEFC had evolved greatly on the European market and as long as the main importers of the Lviv district State forest enterprises are partners from European countries, it would be a great mistake to ignore the tendencies.



**Fig. 8. The territory of the certified forests**

The other facts for the necessity of considering these tendencies could be drawn from the researches made by different foreign scientists. For example, Scandinavian importers of forest products from Russia and the Baltic States are now start demanding eco-certificate for the products in order to know whether the wood was sustainable managed and came from good forests. Other European importers (German, Austrian, Italian, Dutch) have ratified documents not allowing import of tropical wood from unsustainable forests. As for now there is now legal evidence for such measures towards boreal and temperate zone wood, but this is the meter of time.

### **ANALYSIS OF LVIV DISTRICT CONSUMERS' ADVANTAGES FOR THE SECONDARY PROCESSED FOREST PRODUCTS**

Another important factor influencing the demand for wood and primary processed forest products is the indirect demand from the consumers, e.i. through the producers of secondary processed wood products. The data concerning consumers' attitude towards domestic and foreign high value added wood products and also concerning their attitude to environmental friendliness of the goods, their awareness of the environmental issues and willingness to pay more for the environmentally sound goods were gathered through the interviews and questionnaires.

Questionnaires were distributed in the specialized shops (furniture, windows, doors, DIY shops, construction outfit), specialized workshops and educational establishments. 1000 questionnaires were distributed, 482 returned; so the rate of response is 48%.

The most important results that could be drawn out from the research are:

- willingness to use of goods made of natural materials;
- certain discredit for the domestic production;
- imported goods are considered to be less harmful for the consumers' health and environment and also more qualitative;
- willingness to purchase environmentally sound products, which possess eco-certificate is rather high in certain consumers groups;
- willingness to pay for such good an extra 3-5% of its value;
- belief that environmentally sound products are not harmful for consumers' health, its production process and use is safe for the environment, is of high quality and made of natural materials.

So the results show that certain (and increasing) part of Ukrainian consumers is morally ready for such kind of products. Almost 60% of the respondents agreed to buy environmentally sound goods and pay extra price for them – almost 40% of them are willing to pay 3% extra, almost 29% – 5% extra, 14% – 15% extra. But alarming fact is the association of the terms “environmental sound good” and “eco-certificate” basically with their health safety (45.7% of the respondents). 9.7% of respondents associated these terms with safe and clean environment; 7.5% – goods are made of environmentally sound resources. The share of the respondents who are not familiar with the problem or who consider the problem as exaggerated one is rather significant – 11.4%.

### **SUSTAINABLE TRADE PRINCIPLES FOR THE FOREST ENTERPRISES**

First it is important to define what is sustainable trade. On our opinion it is sustainable trade is one that minimizes the negative environmental, social and economic impacts of export and import activities on the country, economic unit or any other community. One of sustainable traders’ basic aims is to act and develop such supply chain which complies with the below mentioned principles:

- environmental safety (possibility of sustainable forest management) – eco-efficiency;
- stimulation of initiatives for sustainable development;
- education of consumers;
- shaping the demand for environmentally sound goods;
- building and maintenance of long-lasting relations with national and foreign partners;
- creating opportunities for further development;
- economic efficiency;
- safety for the people’s health (consumers, workers, etc);
- employment (basically people from the local community);
- fair wages and salaries;

These are the basic principles that the Producer should follow in order to attain consumers’ positive reaction, to create positive image and to act towards sustainable development.

The obstacles of Ukrainian State forest enterprises on the way to sustainable trade and development are:

- insufficient knowledge about world tendencies in the field of sustainable forest management;
- disharmonious commodity composition of international trade;
- unwillingness to invest into the forest maintenance and protection;
- decrease in employment rate on the State forest enterprises;
- insufficient salary and wages rate;
- illegal felling and sales.