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**UTILITY LANDSCAPE ASSESSMENT OF SOME FRUIT TREES ALLEY
IN THE VALUES STARE CZARNOWO
(PROVINCE ZACHODNIOPOMORSKIE)**

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Abstract

This thesis presents the research results on fruit tree alleys located in the area of Stare Czarnowo commune and their influence on the regional landscape diversity. Fruit tree alleys serve as a perfect landscape arranging component which orders the space and performs many natural functions. After the II World War trees were sparsely planted along the road sides and for over 60 years alleys they created have been thoughtlessly devastated. Few of them remained until today, mainly in the West Pomeranian district. In the territory of Stare Czarnowo there were 8 fruit alleys of a different habitat to select and take stock of. Among them: woodlots, roadside shrubs and the avenue created in the area of Dendrological Garden in Glinna. Specimen considered for the research had to be at least 30 cm in the trunk circumference. Among 374 of stock taken plants 4 were identified as fruit trees. There were 125 specimen of the size qualifying them to be regarded as the nature monuments. Fruit trees alleys have a huge impact on diversity of natural habitat. Due to its historical grounds they should be more often and widely used in shaping the rural landscape.

Key words: Stare Czarnowo, fruit trees alley, old alley

INTRODUCTION

Since the beginning of the mankind tree pertained a huge role in the human life. It was placed among the greatest values e.g. was regarded as a link between the human and ghosts world (Błaszczuk and Kosmala 2009). The historical outline of the tree alleys is rooted in the distant past. The alleys constitute a significant landscape formation which keeps the space in order. They serve as compositional experiment performing many natural functions (Kubus and Nowakowska 2007). There is a characteristic climate in the fruit trees crowns thanks to which some specific species (lichens) can grow. They serve also as a lodge for animals where they look for prey.

This way fruit tree alleys influence natural diversity of the area where they grow (Sobieralska 2003). The woodlots and roadside alleys are created mainly of the old plum (*Prunus*) and apple (*Malus*) species, sometimes pear (*Pyrus*). These species yield every other year however they are well adjusted to local climate and more immune to diseases than new species of fruit trees and shrubs which make them unquestionably the best especially for the amateur crops.

Most of the old fruit tree alleys were replaced by the more decorative species which were regarded fashionable in the past and served decorative and camouflage purposes (e.g. for troops when marching). These trees which remained are in dreadful condition. After the II World War fruit trees were rarely planted along the roadsides. With the intensified car transport the condition of most of the alleys deteriorated and is now far from satisfactory (Siewniak and Bobek 2010). In the contemporary perception of the rural landscape as the national heritage they have been foolishly destroyed for the last 70 years. Such type of activities were even strengthened by geotechnical planning and cultural activities which successfully protect other types of historic green areas but not alleys and historic tree stands. However the fruit tree alleys are still associated with the rural landscape.

The issue of such alleys has been recently a significant problem in the Polish landscape. Each year there are more institutions to protect them. Since 2012 the EcoDevelopment Association has run the project 'Roads for Nature – campaign promoting trees'. It is based on municipalities cooperation regarding comprehensive tree planting. The main goal of this project is reconstruction and withholding their further loss (Szmigiel-Franz and Tyszko-Chmielowiec 2012). Together with the natural environment protection the tree alleys are becoming a significant factor of the national heritage, our ecological and aesthetic awareness (Przesmycka 2011). The fruit tree alleys create communication corridors (ecological corridors) and enable many species to survive in a given habitat or migrate to the other ones. Besides their very important ecological and landscape creating function today we can report only few of them along the roads mainly due to their illegal logging without further consequence (Gamrat et al. 2011). Today, they are located only along the rarely visited local roads of the following areas: the Mazovian and West Pomeranian districts, Greater Poland and Silesia (Fortuna-Antoszkiewicz and Łukaszkiwicz 2012). Stare Czarnowo, the commune in the West Pomeranian district bordering the city Szczecin is an interesting example of the area where the tree avenue pattern remained.

The aim of this thesis was drawing up an inventory of stocks of the selected fruit trees in the commune Stare Czarnowo (the West Pomeranian district) and characterising it. It aimed also at researching and evaluating their visual and aesthetic features as well as the way they contribute to the landscape in general.

MATERIALS AND METHODS

There were 8 tree alleys selected for the research in the following cities: Binowo, Dobropole, Glinna, Kołowo, Stare Czarnowo and these created along the communal roads between the villages running from Binowo to Kołowo, Dobropole to Stare Czarnowo and Żelisławiec to Binowo. Species composition of the tree stand was in-

licated, according to Seneta and Dolatowski (2012) and also the tree overall condition. The trunk circumference measurement taken at 130 cm and the crown diameter, the height of the specimen, (using Silva altimeter) and length of the alleys as well as spacing between the trees. A total number of trees was counted, trees of a given species and these trees which trunk's circumference qualified them to be regarded as the nature monument according to parameters given by Kasprzak (2005). Only trees exceeding 30 cm in trunk circumference were considered for further research. Types of landscape were selected according to Bogdanowski (2000).

CHARACTERISTICS OF THE RESEARCH AREA

Regionalisation of the research area

Stare Czarnowo commune is located in the West Pomeranian province. It borders with Szczecin from the north side and adjoins with communes: Gryfino, Bielice, Pyrzyce, Stargard i Kobyłanka. Stare Czarnowo commune is called "climate island" in the Szczecin's region.

It is distinguished by a mild maritime climate with low temperature fluctuations and high rainfall and humidity. Along the eastern borders of the commune extends the picturesque lake called Miedwie with an area of 36 km². In the commune area there are many beautifully situated lakes (including Glinna and Binowskie Lakes). In the administrative borders of the commune there is Szczeciński Park Krajobrazowy "Puszcza Bukowa" (Szczecin Natural Landscape Park "Beech Forest") (Stachak et al. 2009).

Commune characteristics

Slavic Pomeranians settled around Żeliszawiec and Kołbacz in the seventh century. Stare Czarnowo received the city rights in the sixteenth century. In the commune there are many monuments of which the complex of buildings of the former Cistercian abbey in Kołbacz is qualified as the most valuable monument of Western Pomerania. In the commune there was created, among others, Szczeciński Park Krajobrazowy "Puszcza Bukowa" forest reserve – "Trawiasta Buczyna", "Źródłiskowa Buczyna" and "Buczynowe Wąwozy" and the forest wildlife reserve "Kołowskie Parowy". Through the Beech Forest area and its transition zone runs 20 tourist trails with a total length of about 140 km. They lead through the most interesting parts of the forest landscape. Recreation centres, including by the Glinna and Binowskie lakes, allow full water and beach recreation (Stachak et al. 2009).

RESULTS

Besides the "Beech Forest" and the reserves in the Stare Czarnowo commune there are not any other legally protected forms of landscape conservation. Nonetheless, in the commune area there is a remarkable system of "vestigial" alleys of fruit trees, among which grow a lot of trees that deserve the recognition as natural monuments.

Among them there are alleys which deserve particular mention: in Binowo, Dobropole, Glinna, Kołowo, Stare Czarnowo and those located between the villages: Binowo and Kołowo, Dobropole and Stare Czarnowo and the one leading through Żeliszawiec to Binowo. The total length of surveyed alleys of fruit trees is 9 km. There are 402 trees. Detailed results of the study are shown in Tables 1 and 2.

Table 1

Characteristics of the alleys of fruit trees in Stare Czarnowo commune

Alley's location	Number of rows	Alley's length (in meters)	Spacing between the tress (in meters)	Amount of trees (pcs.)	% of loss of trees in the alley
Binowo	2	750	8	30	84
Binowo–Kołowo	2	4200	6	45	97
Dobropole	2	400	6 and 15	46	75
Dobropole–Stare Czarnowo	2	3100	1,2 and 4	49	99
Glinna	2	150	3,5-4,5	12	84
Kołowo	2	250	6	32	61
Stare Czarnowo	2	850	6-8	29	81
Żeliszawiec–Binowo	2	3400	6-8-12	131	83

Table 2

Characteristics of the sites

Alley's location	Appearance of the passageway			Surrounding outside the alley	Vault of the alley
	width of the road (in meters)	type of surface	distance between trees and road (in meters)		
Binowo	3.5	asphalt	2.5	single-family houses / orchard	open
Binowo–Kołowo	3.5	asphalt	1.3	single-family houses / meadow	open
Dobropole	2.5	fieldstone	0.5 and 2	farmlands	open
Dobropole – Stare Czarnowo	3.5	asphalt	2-2.2	farmlands	open
Glinna	2.5	mixture of sand, gravel and crushed stone	1.2 and 0.3	dendrological arboretum specimens, alley exposed on a hill leading to the valley	open
Kołowo	3.5	asphalt	1.5	farmlands	open
Stare Czarnowo	3.5	sand	2.5	farmlands	open
Żeliszawiec–Binowo	5	paving stone cube	2-2.5	farmlands	open

During the inventory of the alleys 4 types of fruit trees were recognised: black cherry and plum (*Prunus*), pear (*Pyrus*) and apple tree (*Malus*). Across all alleys a total of 137 trees were recorded with dimensions which qualify them for recognition as natural monuments (Table 3). List of trees and their health status assessment is presented in Table 4.

Table 3

Table of trees with monumental dimensions

Place	Type	Height of the tree (in meters)	Trunk circumference (in centimeters)	Diameter of the crown (in meters)	Comments
Binowo	black cherry	5.00	161	4.00	
	black cherry	8.50	250	9.75	hollow at the height of 1.50 m
	black cherry	8.00	180	8.00	
	black cherry	10.00	196	15.00	
	black cherry	4.00	186	5.00	dead tree
	black cherry	6.50	190	7.50	
	black cherry	11.00	186	8.00	
	black cherry	7.00	154	5.00	
	black cherry	9.00	270	8.00	
	black cherry	8.50	200	7.00	tree mortality 80%
Binowo– Kołowo	apple tree	7.00	120	4.00	
	apple tree	7.00	107	3.00	
	apple tree	7.00	106	3.50	
	apple tree	7.00	160	4.50	
	apple tree	7.50	165	5.50	hollow at the height of 1.05 m
	apple tree	7.00	180	6.00	hollow at the height of 0.90 m
	apple tree	6.00	100	5.50	
	apple tree	6.50	150	4.50	originally 3-trunk, hollow at the height of 1.50 m, tree mortality 95%
	apple tree	7.00	120	4.00	
	apple tree	7.50	100	5.50	
	apple tree	7.50	160	6.00	dead tree
	apple tree	6.50	150	4.50	tree mortality 80%
	plum	6.00	100	4.50	
	plum	7.00	110	4.00	
	plum	7.00	110	3.00	
	plum	7.00	111	4.00	
	plum	6.00	100	3.00	
	plum	7.00	102	3.00	
	plum	6.00	103	3.50	
	plum	5.50	100	5.00	
	plum	6.50	120	2.00	dead tree
	plum	7.00	120	4.00	
plum	5.00	100	3.00		
plum	6.50	100	3.50		
plum	7.00	100	4.00		
Dobropole	apple tree	5.00	103	7.00	
	plum	4.80	100	2.00	tree mortality 75%

Place	Type	Height of the tree (in meters)	Trunk circumference (in centimeters)	Diameter of the crown (in meters)	Comments
Dobropole– Stare Czarnowo	apple tree	7.00	105	7.00	
	apple tree	8.00	110	8.00	
	plum	8.00	135	7.00	tree mortality 15%
	plum	5.00	100	6.00	
	plum	4.50	110	4.00	
	plum	6.00	100	3.00	
	plum	6.00	120	4.00	
Glinna	plum	5.00	160	2.00	
	apple tree	6.50	145	6.00	
	apple tree	6.50	113	6.00	
	apple tree	5.00	134	4.00	
	apple tree	8.00	143	5.50	
	apple tree	7.00	107	5.50	
	apple tree	5.50	120	5.50	
	apple tree	6.00	122	4.00	
	apple tree	10.00	146	6.00	
	apple tree	10.00	143	4.00	
Kołowo	apple tree	7.00	177	5.00	
	plum	5.00	100	3.50	
	plum	5.00	110	3.00	
	plum	4.50	100	3.50	
Stare Czarnowo	plum	5.00	100	3.50	
	apple tree	5.50	150	6.0	
	apple tree	5.50	186	5.00	
	apple tree	8.50	166; 130	10.00	2 trunks from the height of 0.90 m, circumference under the bifurcation – 1.92 m
	apple tree	8.00	138	1.30	
	apple tree	6.00	126	6.50	hollow at the height of 1.70 m
	apple tree	5.00	101	5.00	4 trunks from the height of 0.30 m, circumference at the height of 0.30-110 m, other trunks: 0.70-0.98 m
	apple tree	8.50	181	10.00	chimney loss, tree mortality 90%, 80% of the trunk without bark
	apple tree	5.50	203	4.50	
	apple tree	8.00	160	7.50	
	apple tree	7.00	105; 115	9.00	2 trunks from the height of 0.30 m, circumference at this height – 215 cm
	apple tree	7.00	130; 161	10.00	2 trunks from the height of 0.40 m, circumference at this height – 187 cm
apple tree	8.50	190	10.50		
apple tree	6.50	109; 138	8.50	2 trunks from the height of 0.80 m, circumference at this height – 145 cm	

Place	Type	Height of the tree (in meters)	Trunk circumference (in centimeters)	Diameter of the crown (in meters)	Comments
	apple tree	9.00	141	10.00	2 trunks from the height of 0.20 m, circumference at this height – 220 cm and 80 cm
	apple tree	9.00	232	10.00	
	apple tree	7.50	102; 135	7.50	4 trunks from the height of 0.30 m, circumference at this height – 1.86 m, other trunks: 0.43 m and 0.74 m
	apple tree	6.50	160	6.00	originally from the height of 0.80 m – 2 trunks, 1 removed, in the remaining trunk hollow at the height of 1.40 m
	apple tree	3.50	100	3.00	unrottable, vivid and fruiting, with a half-peeled off outer bark
	apple tree	5.00	185	6.00	gutter loss
	apple tree	3.50	135	2.50	dead tree
	apple tree	10.00	173	10.00	
	apple tree	11.00	200	15.00	
	apple tree	3.50	190	2.00	
	apple tree	5.00	207	5.00	
	apple tree	5.50	201	5.00	
	apple tree	9.00	101	11.00	2 trunks from the height of 0.60 m, circumference at this height – 1.20 m, second trunk – 0.62 m.
	Żeliszawiec– Binowo	black cherry	8.00	120	4.00
black cherry		8.00	190	2.00	dead tree
black cherry		8.50	130	7.00	tree mortality 20%
black cherry		8.00	141	8.00	tree mortality 20%
black cherry		6.00	123	6.00	tree mortality 70%
black cherry		7.00	111	5.00	from 1 meter high tree firmly peeled
black cherry		8.00	159	6.00	
black cherry		9.00	197	7.00	
black cherry		8.50	194	9.00	
black cherry		6.50	105	5.00	
black cherry		7.00	198	4.00	dead tree
black cherry		7.00	190	5.00	tree mortality 20%
black cherry		5.00	215	4.00	dead tree, half-debarked
black cherry		7.00	170	5.00	dead tree, hollow at the height of 1.60 m
black cherry		7.00	171	7.50	
black cherry	7.00	110	5.00	tree mortality 80%	

Place	Type	Height of the tree (in meters)	Trunk circumference (in centimeters)	Diameter of the crown (in meters)	Comments
	black cherry	8.00	130	9.00	
	black cherry	6.50	105	1.50	dead tree
	black cherry	7.00	105	5.00	tree mortality 10%
	black cherry	4.50	110	3.50	tree mortality 85%
	black cherry	4.50	110	3.50	tree mortality 20%
	black cherry	4.50	150	4.50	tree mortality 20%
	black cherry	7.50	100	5.00	
	black cherry	7.00	120	5.00	
	black cherry	8.00	190	6.00	
	black cherry	6.50	140	4.00	
	black cherry	9.00	160	6.00	
	black cherry	8.00	165	4.00	
	black cherry	7.00	120	4.50	
	black cherry	8.00	170	5.00	
	apple tree	4.00	115	7.00	
	apple tree	6.50	145	6.00	
	apple tree	5.50	100	4.50	
	apple tree	6.50	110	6.00	
	apple tree	6.50	120	7.00	
	apple tree	7.00	132	7.00	
	apple tree	7.00	140	5.50	
	apple tree	7.00	140	8.00	
	plum	6.50	110	4.00	
	plum	6.50	105	3.00	

Table 4

Health condition of the trees

Alley's location	Trees with a gutter loss (pcs.)	Trees with a chimney loss (pcs.)	Trees with a hollow (pcs.)	Trees with withered boughs (pcs.)				Trees with rotting wood
				tree mortality %				
				0-25%	26-50%	51-75%	76-100%	
Binowo	-	-	1c	-	-	1c	2c	-
Binowo-Kołowo	-	-	3a	-	-	-	3a, 2pl	-
Dobropole	1pl	1p	1p, 2pl	4pl	6pl	2a, 5p	1a, 2pl	-
Dobropole – Stare Czarnowo	-	-	-	1pl	-	-	-	-
Glinna	-	-	1a	1a	-	-	-	1a
Kołowo	1pl	-	2pl	4pl	1pl	-	-	2pl
Stare Czarnowo	1a	1a	4a	-	-	-	3a	1a
Żeliszawiec-Binowo	-	-	1c	1p, 5c	-	2c	8c	-
Division by species: apple tree (a), pear tree (p), plum tree (pl), cherry tree (c)								

Among the surveyed alleys there are 2 single-species alleys, 3 dual-species, 1 triple-species and 2 with 4 species of fruit trees. The number of specimens of trees of each species in these alleys illustrates Figure 1.

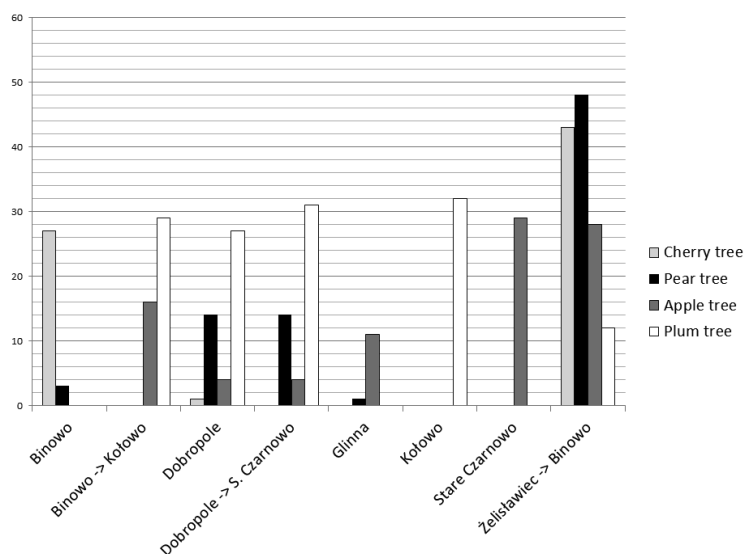


Fig. 1. The number of specimens of trees of individual species in alleys

Examined alleys are dominated by self-seeding fruit trees. There are also self-seeded, other than fruit, trees species and many other older trees. In the longer alleys spaces between following fruit trees are sometimes up to 400 m. Among the 374 inventoried trees in the alleys there is a large percentage – 33.42% – of specimens with dimensions qualifying them to recognise as natural monuments (Fig. 2).

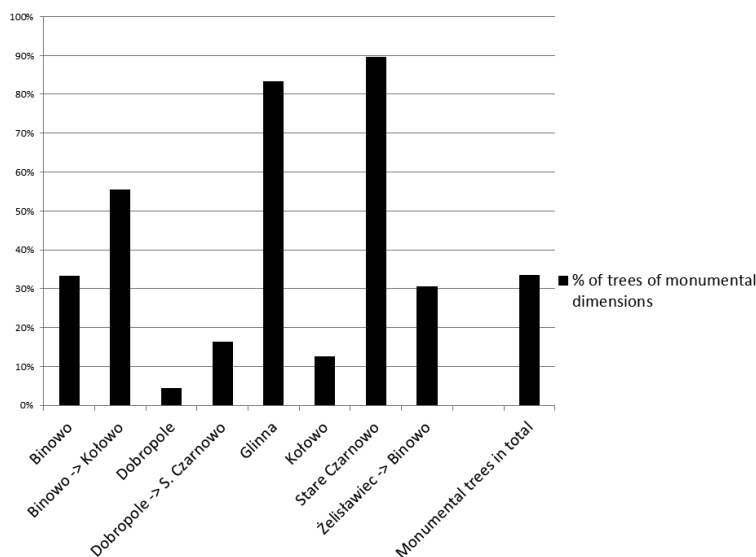


Fig. 2. Percentage of trees of monumental dimensions in various alleys

Various trees in the alleys have different dimensions. There are big differences between the average heights, trunk circumferences and diameters of crowns in different alleys (Table 5).

Table 5

Average: height, trunk circumference
and diameter of the crown of the trees in different alleys

Alley's location	Species	Height (m)	Circumference of the trunk (cm)	Diameter of the crown (m)
Binowo	cherry tree	7.00	140	6.25
	pear tree	7.00	133	6.50
	apple tree	-	-	-
	plum tree	-	-	-
Binowo-Kołowo	cherry tree	-	-	-
	pear tree	-	-	-
	apple tree	6.75	130	4.70
	plum tree	6.10	94	3.80
Dobropole	cherry tree	5.00	43	3.00
	pear tree	8.30	134	7.30
	apple tree	4.55	88	5.30
	plum tree	5.00	65	3.00
Dobropole – Stare Czarnowo	cherry tree	-	-	-
	pear tree	6.30	84	4.80
	apple tree	6.60	81	5.50
	plum tree	5.30	74	3.30
Glinna	cherry tree	-	-	-
	pear tree	9.00	129	5.00
	apple tree	7.00	120	4.50
	plum tree	-	-	-
Kołowo	cherry tree	-	-	-
	pear tree	-	-	-
	apple tree	-	-	-
	plum tree	4.47	86	3.04
Stare Czarnowo	cherry tree	-	-	-
	pear tree	-	-	-
	apple tree	6.50	163	6.90
	plum tree	-	-	-
Żeliszawiec-Binowo	cherry tree	6.80	126	5.00
	pear tree	6.50	84	4.60
	apple tree	5.80	85	5.20
	plum tree	6.40	74	4.00



Photo 1. Cherry alley in Binowo (photo by K. Stanisławski)

An alley in Binowo (Photo 1) consists of cherry and pear trees with a trunk circumference of 110-170 cm. 10 monumental cherries grow in the alley. Numerous self-seeded cherries, pears, apples and plums introduce chaos in a harmonious, agricultural and settling cultural landscape on the entire length of the alley.

The landscape framework is the Beech Forest which surrounds the park and specimens of trees and shrubs in the Glinna Arboretum extending in the valley are the foreground of alley exposure. The alley (Photo 2) leads from the side entrance and “the Log Cabin” located on a hill to a collection of plants in the lower part of the garden. The size of trunk circumferences of the trees in the alley ranges from 72-177 cm. The alley gives a historical character to the landscape of the park.



Photo 2. Alley in the Dendrological Garden in Glinna (photo by K. Stanisławski)

An alley in Kołowo (Photo 3) is the plum alley. It is two-rowed and its length is 250 m. In the place where trees end, on the left side of the alley begins its right row. Among the 32 trees in the alley, 4 are trees of monumental dimensions. Almost on the entire length of the alley are young self-seeded plum trees which break the harmonious open (cultivation) landscape.



Photo 3. Plum alley in Kołowo (photo by K. Stanisławski)

An alley in Stare Czarnowo (Photo 4) is the apple alley. It is two-rowed and its length is 850 m. The trees were planted every 6 m and, in some spaces, every 8 meters. The alley is in poor condition. After 150 m in the next 200 m – lack of plants, then there are numerous gaps. Among the 29 trees in the alley, 26 are trees of monumental dimensions.



Photo 4. Apple alley among field in Stare Czarnowo (photo by K. Stanisławski)

Most of them are multitrunk specimens. The trees are in bad condition. Many of them have gutter losses, hollows, detached boughs, rotting wood. Because in the middle of nowhere they are the highest point, they are often broken by strong winds. In addition to these trees almost on the entire length of the alley are young self-seeded apple and plum trees. The alley is a dominant and gives the rhythm in a harmonious cultivation landscape.



Photo 5. Alley by the road from Binowo to Kołowo (photo by K. Stanisławski)

An alley leading from Binowo to Kołowo (Photo 5) is the mixed alley. It is two-rowed, and its length is 4.2 km. There is a lot of trees of monumental dimensions – 25 specimens. Almost on the entire length of the alley there are young self-seeded plum trees. The alley beautifully fits in the harmonious cultural cultivation landscape.



Photo 6. Alley leading from Dobropole to Stare Czarnowo (photo by K. Stanisławski)

An alley leading from Dobropole to Stare Czarnowo is the mixed alley (Photo 6). There are 31 specimens of plum trees, 14 pears and 4 apple trees growing. It is two-rowed, and its length is 3.1 km. The trees were planted on the left side every 1.2 m and on the right side every 4 m. Among the 49 trees in the alley only 8 are trees of monumental dimensions. The alley gives the historical character to the cultural landscape. In addition to these trees almost on the entire length of the alley there are young self-seeded Orchard Apples and Common Plums disturbing the harmonious nature of the landscape.

An alley in Dobropole (Photo 7) actually leading from the colony to the village is the mixed alley. 27 specimens of plum, 14 pears, 4 apples and 1 cherry grow in the alley. The alley is two-rowed and its length is 400 m. The apple trees were planted every 15 m and pear trees every 6 m and plums and cherries every 8-12 m. Among the 46 trees in the alley only 2 are trees of monumental dimensions. Self-seeding fruit trees occur along the entire length of the alley. Despite many self-seeded trees older trees give the landscape a harmonious character. The alley with the fieldstone surface beautifully fits into the historical agricultural and settling character of the landscape.



Photo 7. Alley in Dobropole (photo by K. Stanisławski)

An alley leading from Żelisławiec to Binowo (Photo 8) is the mixed alley. 48 pear trees, 43 cherries, 28 apple trees and 12 plum trees grow in it. The alley is two-rowed and its length is 3.4 km. In this alley (of all surveyed alleys) is the largest number of trees of monumental dimensions, as many as 40. The alley with the surface of the paving stone cube beautifully fits into the historical agricultural and settling harmonious landscape. Self-seeded fruit trees occur along the entire length of the alley. It mainly consists of plum trees. The alley is a dominant in this landscape.



Photo 8. Alley leading from Żelisławiec to Binowo (photo by K. Stanisławski)

Trees in the alleys located within the Stare Czarnowo commune continue to fruit, despite various health condition (Photo 9). In total, among the trees with a trunk circumference above 30 cm in all alleys grow 71 cherries, 80 pears, 92 apples and 131 plum trees.



Photo 9. Example of the fruit of the apple tree growing in the surveyed alleys (photo by K. Stanisławski)

CONCLUSIONS

Due to its picturesque location Stare Czarnowo commune is an ideal place for the development of agro-tourism and eco-tourism. This type of rural area requires a special kind of decoration with greenery. The alleys in the Stare Czarnowo commune,

although they lost their character in a great percentage, still allow to read the historical alley's arrangement in this area and give the unique character to the region. The alleys are a "tourist product", with the result in contributing to economic growth in the tourist development of rural areas, while protecting and improving the environmental conditions (Jaszczak 2008). They fulfill the functions of tourist, historical and cultural, compositional and aesthetic, social, natural and ecological and also economic, navigation and drainage (Winiarski and Janeczko 2011).

The alleys presented in this study are dominated mainly by self-seeded trees, but they have many trees with monumental dimensions in their composition. They give the rhythm and bring a harmonious character to the cultural landscape of the commune. They are also an element that often underpins the view or the dominant in the growing, agricultural and settling or park landscape of the commune. They should be considered as a natural monument because of the size of individual trees and be included into the landscape protection zone. At the same time they should be included into the landscape reclamation zone, as they require supplementation and thereby improving their landscape values. Their protection should be based on work related to the care of trees and removal of self-seeding trees, which create concrete viewing interiors from the objective interiors.

The most attractive alleys should be more widely promoted by the commune because they create very good conditions for horse riding, cycling and hiking. The alleys which accompany roads of Stare Czarnowo commune together with the Beech Forest co-create the landscape identity of this region. Because of the increasingly rare occurrence of this type of structures in the landscape of Poland alleys of Stare Czarnowo commune deserve to be included in the legal protection, despite the small number of preserved historic tree stand.

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OCENA WALORÓW KRAJOBRAZOWYCH WYBRANYCH ALEI DRZEW OWOCOWYCH NA TERENIE GMINY STARE CZARNOWO (WOJEWÓDZTWO ZACHODNIOPOMORSKIE)

Streszczenie

W pracy przedstawiono wyniki badań nad alejami drzew owocowych zlokalizowanych na terenie gminy Stare Czarnowo oraz ich wpływem na waloryzację krajobrazu regionu. Aleje drzew owocowych stanowią doskonały eksperyment kompozycyjny, który porządkuje przestrzeń oraz spełnia wiele funkcji przyrodniczych. Po II wojnie światowej rzadko sadzono drzewa owocowe przy drogach, a przez ponad 60 ostatnich lat bezmyślnie niszczone utworzone z nich aleje. Nieliczne z nich utrzymały się do dzisiaj, m.in. w województwie zachodniopomorskim. Na terenie gminy Stare Czarnowo wytypowano i zinventaryzowano 8 alei różniących się typem siedliska. Wytypowano aleje śródpolne i przydrożne oraz aleję utworzoną na terenie Ogrodu Dendrologicznego w Glinnej. Do badań wzięto pod uwagę jedynie okazy o obwodzie pnia minimum 30 cm. Wśród 374 zinventaryzowanych roślin zidentyfikowano 4 gatunki drzew owocowych. Odnotowano 125 okazów o wymiarach kwalifikujących je do uznania za pomniki

przyrody. Aleje drzew owocowych wpływają na różnorodność biologiczną obszaru, na którym występują. Ze względu na podłoże historyczne oraz swe walory estetyczne powinny być szerzej wykorzystywane w kształtowaniu krajobrazu obszarów wiejskich.