

Summary

1. Introduction

1.1. Justifying the theme, goals, tasks

In Hungary the fundamental social-economic changes occurred since the regime change like the increasing of delinquency, changing of its structure, decreasing sense of security of the population justify and make actual the **social geographical research of criminality**. Negative phenomena are also space specific thus significant spatial differences are found in delinquency as well. **Criminal geography** studies these spatial differences and the **spatial and time aspects of delinquency** as a social mass phenomenon.

In the course of my research the study of the **criminal geographical conditions of Hajdú-Bihar county**, one of the areas that is characterised by adverse values was carried out between 1990 and 2003. According to my opinion the criminal geographical studies are **important** (applicable in practice), **actual**, **pioneer** and **suppletory** (according to my knowledge the detailed criminal geographical research of a county has not yet been carried out in the country).

In the research the following **two** associated fundamental **goals** were set:

- *presenting criminal geography* to the wider public through professional literature;
- *presenting the methods, practice, application possibilities* of applied criminal geographical investigations through *concrete examples* (Hajdú-Bihar county, Hajdúböszörmény) on the basis of individual research results.

Tasks to be solved in order to reach the goals:

- determine the *term of criminal geography*, reveal its major *historical benchmarks*, present the *modern criminal geographical methods and tendencies* applying GIS techniques, and finally to investigate the conditions of their *domestic adaptation*;
- carry out *comparative analyses with space and time aspects* at several spatial levels regarding the extent, tendencies, dynamism, structure of delinquency and the effectiveness of the police work, based on this to complete the *environment qualification of Hajdú-Bihar county regarding delinquency*;
- expose the spatial *relationship* between *delinquency* and the *social-economic factors*;
- to complete the detailed *criminal geographical study* of a chosen settlement (*Hajdúböszörmény*);
- *to summarise and to conclude* the role of criminal geographical research in criminal investigation and crime prevention.

1.2. Applied methods in the research

Critically analysing the **domestic** and the **international professional literature**, studying the **law** associated with the research topic.

The sources of the **social, economic information** relevant to the county were the publications of the *Central Statistics Office (CSO)* and the *TEIR*.

The most important sources of the **criminal statistical database** were the *ERÜBS*, the *Statistics Department of the Informatics Office of the Ministry of Home Affairs* and the system *Robotzsaru-2000*.

To know the practice of criminal investigation and crime prevention in more detail problems exposing **professional talks, soft and structured deep interviews** were performed with the leaders and colleagues of professional authorities.

In criminal geographical research - as we can only partly rely on the official statistics - the application of the **empiric methods** is essential. Therefore in Hajdúböszörmény **questionnaire survey** and **field trips** were performed.

Statistic data were recorded in *tables* with the help of the software **Microsoft Excel 2000**. This software was applied to construct the *graphical figures* (graphs, diagrams) and to the application of the *mathematic-statistic methods* as well.

The software **SPSS for Windows 8.0** helped my research in recording and analysing the *data of the questionnaire survey*.

Thematic maps (104 pieces) were applied as information source, data analysis method and presentation of the results in order to show them in more striking forms. The majority of the maps were prepared by the software **ArcView GIS 3.3**.

2. Evaluation and critical analysis of the criminal geographical professional literature

- **Term and relationships of criminal geography:**

From the criminologist's point of view **criminal geography or geocriminology** is part of the field of **criminology** without geography, geographers.

On the basis of the professional literature in my opinion **criminal geography is a branch of applied social geography studying the spatial and time aspects of delinquency as a social mass phenomena, it is an inter-sub-discipline between criminology and social geography.**

It studies the spatial structure, extent, tendencies and dynamism, spatial intensity, social-economic background of delinquency, investigates its expected spatial shifts regarding the current social-economic processes and it contributes to the determination of space specific crime prevention strategies.

- **International history of the „traditional” criminal geographical researches:**

Criminal geographical researches date back to the **first half of the 19th century**: The researches of *Guerry* (1833) and *Quetelet* in France were the very first ones. Criminal geography was renewed by the so called **Chicago school** (*Shaw and McKay*) **from the 20s of the 20th century** starting the **second great era** of its history. The increasing of delinquency diverted attention towards criminal geographical research again from the **1960s**. This was the time when the **third era of criminal geography** termed here as **“traditional”**.

- **Domestic history of „traditional” criminal geographical researches:**

In Hungary *Földes B.* carried out the first criminal geographical investigation (**1889**). From the **period between the two world wars** works of *jurists, statisticians* discussing the spatial characteristics of criminality can be mentioned. **From the beginning of the 1960s** and especially from the 1980s - with the increasing of delinquency - more-and-more work was made primarily by *criminologists* investigating the spatiality of delinquency. **Geographers** carry out criminal geographical research only **from the end of the 1980s**.

- **Modern - applying GIS methods - criminal geography:**
Crime Mapping:

The crime maps based on GIS methods became **valuable appliances** in the last two decades and there application became more-and-more widespread. **In our country** its **practical application** is way **behind** the still small number of theoretical works, however, such systems adjusted to the local specific conditions would **have good service** in the fields of criminal investigation and crime prevention.

Hot Spots Analysis:

Generally such **places of relatively small extent** are meant here where **crimes are concentrated** and **crime infection is high** for a longer time period. These places may be point- (like a building) or patch-like (an area). Hot spots vary in space and time, they mostly occur first as slight crime concentrations and they have development stages.

- **Possible spatial dimensions of criminal geographical research in Hungary:**

With the critical analysis of former researches in Hungary I regard the analysis of the spatial structure of delinquency as beneficial at **six spatial levels**: **1. National/international level**; **2. Regional level**; **3. County level**; **4. Small region level**; **5. Settlement level**; **6. Within settlement level** - in this level I identify **three sub-levels**: *a. larger districts* (districts, police stations); *b. smaller town parts relatively homogeneous regarding human ecology*; *c. housing estates, building blocks, houses, road constructions* (*architectural crime prevention*).

3. Analysing the physical and social geographical factors influencing the criminal state of Hajdú-Bihar county

In the course of criminal geographical research it is essential to investigate the *physical geographical conditions, social-economic factors potentially influencing the criminal state* of a given area. The comparative analysis of the *state of the county regarding the national characteristics* and the *determination of the spatial differences within the county* were carried out.

In conclusion it can be stated that Hajdú-Bihar is a **moderately developed county** on the basis of the investigated factors. It is composed of **heterogeneous areas** from social-economic points of view and they can be classified into three major categories:

- **Debrecen rises like an oasis** from not only Hajdú-Bihar county but the entire eastern part of Hungary considering social-economic development.
- A specific urban area presents the developed **centre** area of the county situated in the area of the Hajdúság in the **central part of the county**.
- **Bihar, Ligetalja** and the **Erdőspuszták**, together with the **Tiszamente** are peripheral economically backward **multiply disadvantageous** areas lying along county and state boundaries.

4. Comparative-analysing criminal geographical investigation of Hajdú-Bihar county

4.1. Spatial structure of the authorities and organisations specified to investigate and prevent crime

- **Police:** The local organisation of the Police is the **Police Main Headquarters of Hajdú-Bihar County** the authority of which covers the area of the county. Its local authorities were **8 police headquarters, 20 police stations** and the **district police officers**. **There was no presence of Police in 27 settlements** out of the 82 settlements of the county.
- **Frontier guards:** The part of the state border and border area that belongs to Hajdú-Bihar county (**98,542 m**; and between 1997 and 2001 the public administrative area of 30 settlements, **1,305.96 km²**, 21 % of the area of the county) is under the authority of the **Frontier Guard Directorate of Orosháza** and **Nyírbátor**.
- **Board of Customs and Excise:** The middle (regional) organisation of the customs office is the **Northern Great Plain Headquarters of the Board of Customs and Excise**. The local organisations are the *border customs offices* at *Ártánd* and *Nyírábrány* together with the *customs offices* in *Berettyóújfalu* and *Debrecen*.

- **Civil Guard:** in 2004 the **Hajdú-Bihar County Civil Guard Association** involved civil guard organisations operating in **70 settlements** of the county.

4.2. Spatial characteristics of the known crimes

The entire delinquency cannot be known completely there is a difference between the **measurement of the known delinquency** and the **estimation of the total delinquency**. The difference of real (complete) and the known delinquency is the **latent delinquency**. In the course of my research the **ERÜBS** database was used from the **criminal statistic** systems. Its base data regarding the criminal statistic delinquency are the **known crimes** registered according to their **place** and the **known criminals** registered according to their **living place**.

- **Extent, tendency, dynamics:**

In Hungary the number of known crimes started to increase in the 1980s and the **rate of the increasing** was intensified in the second half of the decade especially at **the time of the regime change** This **increasing tendency** was continued until **1998**. Their number was reduced after 1998 and it **stagnated** between **2000 and 2002**.

A similar process was observed in **Hajdú-Bihar** as well where the number of crimes reached its **top** in **1992** then **after 1996** it was continuously **reduced**. Regarding the absolute number of the known crimes Hajdú-Bihar was **3-6**. in 1990-2002 in the order of the **counties list added with Budapest**. Based on the **average** of the studied time period it occupied **4th** position.

The **values of Debrecen** are **significant among the eight Police headquarters**. Considering the other seven headquarters most of the crimes was committed in the area of the Berettyóújfalu and the Hajdúhadház headquarters and the smallest number of crimes were committed in the area of the Hajdúböszörmény and Hajdúnánás headquarters.

At settlement level much more significant data characterise **Debrecen** it **has more crime problems** than the rest of the settlements together in the county. The county capital is followed by the **towns** while the **villages** are **“under represented”**.

- **Describing crime frequency:**

In order to make them comparable the absolute numbers of crimes have to be completed with calculated values. The comparison to the inhabitants is the primary indicator of **crime frequency** or **crime infection**.

In the first half of the study period Hajdú-Bihar belonged to **the most crime infected areas**. However **after 1997** with values under the national average and equalling the countryside average it was found **in the middle** or in the **second half** of the **national order**. **Taking the average** of the time period between 1990 and 2002 it occupied the **8th** place.

At headquarters level the **crime frequency** in the area of the **Debrecen Police Headquarters** was **very high** well exceeding the national average and increasing significantly the average of the county as well. Considering delinquency the **least infected areas** are that of the **Hajdúböszörmény** and **Hajdúnánás Police headquarters**.

At **settlement level Debrecen** can be characterised by a **high** but not the highest value of **crime infection**. Crime frequencies of the **towns** can be classified in the **moderate categories** generally. The settlements with **the highest values** are found in the area of the Berettyóújfalu Headquarters (Ártánd, Bojt, Hencida, Pocsaj, Told). **Less crime infected settlements** are found both in the more developed (e.g. Ebes, Görbeháza) and in the less developed areas of the county (e.g. Bihardancsháza).

- **Structure of the known crimes:**

Studying the **activity** of the known crimes the most important approach is the overview adjusted to the **chapters of the Criminal Code (CC)** (*Act IV. 1978*). Based on this **9 main groups of crimes** can be separated.

- **The greatest part** with rates above 60%, 70% and occasionally even 80% was represented by **crimes against property**. In the second part of the study period some crime main groups (e.g. crimes against public order, economic crimes) were increased against crimes against property.
- The **number** and **rate of crimes against person** endangering the most public and subjective safety are **very high** in Hajdú-Bihar.
- The **majority of transport crimes** are not causing public road accidents but **drunken driving**.
- Among the main groups the **number** and **rate of crimes against public order** **increased the most dynamically**.
- Studying the **spatiality** of the **crimes against property** it can be stated that due to its significant role in the total crimes it is **greatly similar to the spatial picture of the total crimes**. Its **places** are determined by the **spatial distribution of the values**.
- **One third** of the known crimes were committed **in public areas**.

4.3. Spatial characteristics of the known criminals

The **number of known criminals and known crimes** differ from each other **significantly**.

- **Extent, tendency, dynamics:**

The number of known criminals started to increase in the 1980s **in Hungary**, however, the **rate of the increase** was **behind** the rate of that of the crimes. This value was stagnating between 1993 and 1996 then another increase was experienced in 1997-1998 and it reached its **top** in **1998**. Following this their number was reduced and it **stagnated between 2000 and 2002**.

A similar process was under way in **Hajdú-Bihar**. The number of known criminals reached its **top** in **1992** and it **stagnated** in the last years of the studied period. The county is **5th** in the **county order counting with Budapest as well** regarding the number of criminals between 1991 and 2002. Based on the **average** of the values in the studied period it occupies the same disadvantageous position

Among the **Police headquarters** of the county the **values of the one in Debrecen are significant**. Considering the other seven headquarters most of the criminals became known in the area of the Berettyóújfalu and the Hajdúhadház headquarters and the smallest number of criminals became known in the area of the Hajdúböszörmény and Balmazújváros headquarters.

At settlement level the significant values of Debrecen can be observed. The rate of known criminals in the **villages** exceeds the rate of the known crimes.

- **Number of known criminals by 100,000 inhabitants:**

The **frequency of criminals** is the number of known criminals by 10,000 or 100,000 inhabitants.

The frequency of criminals **is greatest in the counties in the northeastern part of the country**. There is a **reciprocal proportion** between **social-economic development** and the **frequency of criminals**. In **Hajdú-Bihar** the frequency of criminals **exceeded the national average**. It was **placed 4th** in the county order based on the **average** between 1990 and 2002.

At Police headquarters' level the frequency of criminals of **Berettyóújfalu, Debrecen** and **Hajdúhadház** was **higher** than the county and national **average**. The values of the remaining 5 Police headquarters remained below the averages in most of the years (it was **smallest** in **Hajdúböszörmény** and **Hajdúszoboszló**).

At settlement level Debrecen has higher values than the county average, however, the highest value does not belong to it. The frequency of criminals is around average or remains under it in most of the **towns** except for Hajdúhadház having high values. Criminals are **living in greatest frequency in one part of the settlements in the Bihar region** (Bojt, Hencida, Nagykereki, Pocsaj, Told). **Low** frequency of criminals, low crime infection and the best public safety in the county characterises for example Bihardancsháza, Tiszagyulaháza, Ebes, and Görbeháza.

- **Structure of the known criminals:**

According to activities: Due to the low rate of successful investigations **less than half** of the criminals (42% in 2002) committed **crimes against property**.

According to gender: The **rate of women criminals** is **much less** than that of men in the total delinquency (**11-12%** of the known criminals).

According to age: After becoming the age when it is possible to trespass according to the criminal law crime frequency increases steeply and reaches its **top in the young adult age**. Then it reduces first slightly and after the age of 40-45 steeply.

According to marital status: There is a clear **reciprocal proportion** between **ordered family background** and **criminal frequency**.

According to education: With the degree of education criminal frequency reduces.

Gypsy criminals: Between 1971 and 1988 the Police maintained a record on the so called **gypsy criminals**. Among criminals gypsies were **two times overrepresented**.

Foreign criminals: Crimes committed by foreign people presented **2-2.5%** of the total known crimes between 1990 and 2002. The rate among **criminals** was only **4.5%** (2.7% in Hajdú-Bihar).

According to antecedent: In 1990-2002 **37.4%** of the known criminals were **old offenders** while **13,8%** of them were **backsliders** in Hungary.

According to the staying at the place of the crime: The **majority** of the criminals were **local inhabitants**.

4.4. Spatial characteristics of known offended people

The pattern of the number and dynamism of **offended natural persons** (60% of offended persons) is only partly the same as the pattern of the number and dynamism of known crimes, the main reason for this that offended people can be not only natural persons but corporations as well.

Hajdú-Bihar was in “good” positions regarding both the number and frequency of offended persons: in **2002** based on the **absolute numbers** it was **4th**, based on the **value to 100,000 people** it was **3rd** behind Budapest and Somogy county.

Considering the **classification** of the offended persons **more than 80% of them suffered from crimes against property**; the rate of **men** was **2/3**; **younger people** become offended persons more frequently than older ones; the rate of **foreign citizens** is **4-6%**, it was **1-2%** in the less attractive **Hajdú-Bihar** regarding tourism.

4.5. Delinquency and some of its social-economic relationships

Delinquency is a mass phenomenon determined by social-economic conditions and it is in **stochastic relationship** with other social mass phenomena. Due to its complexity **mathematic-statistic methods** can be applied **cautiously**. The direction and closeness of the connection between the social-economic life and delinquency were studied by the methods of **correlation counting**.

- **There is a close positive connection between delinquency frequency and economic development.** Most of the crimes are committed not in the poorest areas but where challenges are greatest.
- **The frequency of criminals** shows a weak negative connection with the factors of economic development and a **close positive connection with unemployment**. This is more characteristic in the case of young and already

punished criminals. Unemployment is a significant **determinative factor in the case of delinquency**.

4.6. Assessing Police work based on investigation success and investigations against unknown criminals

In 1990-2002 **investigation success** (number of successful investigations compared to the number of the known crimes) **was 50% in average** nationally and in Hajdú-Bihar as well. In the county **in the 1990s** this value was **below the national average** while it **exceeded the national average in 2000-2002**. Hajdú-Bihar was in a disadvantageous position in the **county order** as it was placed in its **second half** except for 2000. **At the level of Police headquarters** the values of Debrecen are below the county and the national average while that of Hajdúszoboszló remain around the average and the values of the rest of the Police headquarters are well over the average (especially in the case of Hajdúnánás and Hajdúböszörmény).

Investigations against unknown criminals (success of investigations against unknown criminals) were successful in **38% as an average** nationally and in the county as well. This value in Hajdú-Bihar was **smaller than the national average between 1990 and 1998** then it **became greater** than the average. The county was found frequently in the **last third** of the county order. In the case of Police headquarters the situation is similar to that stated in the case of investigation success.

4.7. Criminal geographical study of the public road accidents with personal injuries

The **investigation of road accidents**, preparation of **accident dot maps**, contribution to accident prevention, accident focus liquidation and traffic security improvement are important **sub fields of criminal geography**.

In Hungary **9/10 of the traffic accidents with personal injury** are road accidents. The number of accidents reached its **top** in **1990** then their number was significantly reduced. The **number of injured or died people** due to accidents was also **reduced** together with the **seriousness of the accidents**, however, **accident danger** is still **high**.

A **similar process** was observed in **Hajdú-Bihar county** as well: **after 1990** the number of both **accidents and injured people** was **reduced**. Both the absolute and relative numbers of public road accidents reflected the **very disadvantageous position** of the county: Hajdú-Bihar belongs to the counties of **greatest accident risk**.

Accidents were also analysed and compared to national values regarding their **result, nature, causes and causers**.

The **spatial distribution** of accidents showed great similarity to the traffic load of the public roads. **More than 2/3** of the accidents **happened in built-up areas**, especially **in Debrecen**. From non built-up areas the **main roads are highlighted**, primarily the number of accidents on the roads running **into and out of Debrecen**.

In the case of the **time dimension** of the accidents the study covered the **monthly** (maximum in October), **the days of the week** (higher values on Friday and Saturday) and the **day hours** (top between 15 o'clock and 19 o'clock) distribution.

4.8. Detailed criminal geographical study of a chosen settlement, Hajdúböszörmény

- **Short social geographical description of the town:**

Hajdúböszörmény is **second regarding the number of inhabitants** in Hajdú-Bihar county and it has the **4th largest public administration area** in the country. Its **spatial structural position** is characterised by **duality**: it is situated in a **less developed part of the country**, however, in a **more developed centre area of Hajdú-Bihar county**. This duality is also characteristic for its **social-economic indexes**: the data of the town are usually **above the county average but below the national average**.

- **Analysis of the police statistic data:**

Criminal infection of the town is **average**, however, it falls **below average** comparing to other similar sized towns, **its public safety position has been stable** for years.

The **spatial distribution** of six crime types **associated with geographical position** (*assault, rowdysm, stealing, burglary, robbery, impairment*) is shown on the digitised map of the centre of the town. Their **aggregated dot maps** are also prepared and the **crime infected areas** are marked with the help of the software ArcView. **Five areas having larger crime density** can be separated out of which the **centre of the town is highlighted** regarding the number of crime events. Besides spatiality the **most characteristic events, their relationship to the social-economic factors of the town parts** and the **time dimension** of delinquency were analysed.

In the course of the research the number, structure, spatial distribution and time aspects of **road accidents with personal injuries** were also investigated and based on **accident dot maps**, it is stated that **there are no accident high points** in the town.

- **Practice of crime prevention:**

The representatives of the **authorities** taking part in crime prevention, *Civil Guard, Rural Constable Service* and *Public Place Control* are collating with the staff of the Police on a weekly basis. The **Crime Prevention Council of**

Hajdúböszörmény was formed in 2003 and the **Crime Prevention Conception** of the town was completed.

- **Questionnaire survey among the inhabitants:**

The survey was carried out among the inhabitants older than 18 years. With a 3 % sampling **it covered 691 people**. Sampling was **layered according to the geographical position** and although it is not representative the difference between the distribution of the samples and the distribution of the base abundance is not significant.

In the criminal geographical questionnaire all three aspects of **subjective safety** (*cognitive, affective, conative*) and the **social elements of the criminal attitude system** are covered.

Those who were questioned fundamentally respect the town and especially their immediate living area as **safe**.

In 2002-2003 14.6% of those questioned **suffered from criminal offence** in the town. 41.6% did not report it to the police, i.e. almost half of the crimes remained in **latency**.

The majority regards the criminal investigation, crime prevention and administration, handling of reports of the **Police in Hajdúböszörmény** as appropriate, good or excellent (54.5 and 48.3%), a relatively high ratio (31.5 and 34.6%) knows nothing about these activities of the Police.

Sense of security was smallest at night outside the house and the other extremity was represented by staying in the house at daylight.

After sunset 26.9% of those questioned **alone avoid certain streets and places** (59.7% named the Déli Lucernás and those areas populated by Gypsies) while 31.7% not even leave the house alone after sunset.

From the seven precautions listed the majority of those questioned (58.4%) performed two or three in order to protect his personality and property.

- **Summarising the results of the research, crime prevention recommendations:**

One of the most important statement of the research is that the **most crime infected areas are not completely the same as those regarded least safe by the inhabitants**. The **Déli Lucernás**, the **vineyards** and **Bodaszőlő** are those areas where complex measures (not only police and crime prevention) are required in order to increase public safety and the sense of security of the inhabitants and to stop the **already started segregation process**.

Finally, **crime prevention** and **traffic safety recommendations** are discussed based on my investigations.

4.9. Studying miscarriages revealed by the Frontier Guard

Studying **miscarriages associated with the state border** and the **border region** can be regarded as a **special sub-field of criminal geography**.

Together with the opening of the borders **after the regime change** the **number of miscarriages** revealed by the Frontier Guard **was significantly increased**. Hungary from an emitter country turned to be a (illegal) **migration transit and receiver country** rapidly. **Its structure has changed** as well: new forms of organised delinquency appeared crossing the borders. The **most frequent** miscarriage was **forbidden border crossing and its attempt** (mostly **outward from the country**).

The **number** of miscarriages was continuously **high** along the **Romanian border**. Considering the **absolute numbers** the Romanian border was **second** most frequently behind the Austrian border and regarding the number of miscarriages to **1 km of the border** it was in the **middle** of the order - generally **exceeding the national average**. Regarding its structure the **rate** of miscarriages associated with **illegal migration** was **significant**. The majority of the **FBC activities** were **directed inward** and the rate of **offences associated with the provost of foreigners** was very **high** exceeding the national average.

In the state borders and border regions belonging to **Hajdú-Bihar county** the **vast majority** of miscarriages revealed by the five frontier guard and the two border traffic branch offices were **associated** with the **Frontier Main Headquarters in Biharkeresztes**. The primary reason for this was the enormous traffic of the public **road border crossing point in Ártánd**. Studying the **time aspect** it can be stated that there were **no significant differences** regarding the monthly, daily or hour distribution of the miscarriages associated with the borders and border regions.

4.10. Studying the miscarriages revealed by the Board of Customs and Excise

Many crimes and offences were revealed by the Board of Customs and Excise in the northeastern part of Hungary. One of the main reason for motivation is that poverty and unemployment are great in the border-side regions of Hajdú-Bihar and Bihor counties therefore many people tried to **obtain** (extra) **income** by **committing offences** using the **differences in price levels** between the two countries.

The 4 customs offices of Hajdú-Bihar revealed 1,348 and 1,945 **miscarriages** in 2002 and 2003 respectively. **4/5** of them were revealed by the **customs office at Ártánd**. At the border customs offices characteristically investigations were initiated for **customs offences to smaller values**. **Revenue crimes** were revealed by the **customs office in Debrecen** in larger number and rate. The primary subjects of crimes were **cigarette, alcoholic drink, clean alcohol and petrol**. The **value** of the revealed miscarriages was 260 million forints in 2002 and 294 million forints in 2003. Regarding the value again the **customs offices of Debrecen and Ártánd** were significant.

5. Spatial aspects of delinquency in Hajdú-Bihar county - summary

5.1. Environmental assessment of the settlements in Hajdú-Bihar county considering delinquency, crime prevention recommendations

In order to classify the settlements of the county from the aspect of delinquency a scoring system was applied. As a result the 82 settlements were placed on a 5x5 cross board where the columns represented the crime frequency and the rows represented the frequency of criminals.

The crime and criminal frequency is very low in 10 settlements (Bihardancsháza, Görbeháza, Újtikos, Nagyrábé, Álmosd, Tiszagyulaháza, Monostorpályi, Nyírac nád, Körösszegapáti, Tépe). These are the settlements having the best public safety in Hajdú-Bihar.

The number of the most infected settlements having the poorest public safety is 11 (Tetétlen, Nagykeréki, Egyek, Told, Konyár, Bojt, Pocsaj, Hencida, Hajdúhadház, Bocskai kert, Debrecen). In these settlements the reduction of delinquency requires different but complex crime prevention measures.

In the cases of those settlements where crime frequency is (relatively) much higher than the frequency of criminals primarily situational crime prevention, the reduction of crime occasions and the minimisation of the potential to become victims are required (e.g. Hajdúszoboszló, Hortobágy).

In contrary, where the frequency of criminals is (relatively) much greater primarily the prevention of people from becoming criminals and the prevention of criminals to repeat their crime or to become old offenders have to be focused on (e.g.: Nyírmártonfalva, Kismarja, Újléta).

Finally recommendations are given for the changing of the spatial structure of the Police: to establish a Police station in Hajdúsámson and district police offices in three settlements (*Bagamér, Bojt, Váncsod*).

5.2. The most important new scientific results of the research, their application in practice

- I made an attempt to clear and define the term of criminal geography. Its science historical benchmarks are discussed in detail and its most modern directions and the necessity of their adaptation is also noted.
- According to my knowledge this is the first study to investigate the criminal geographical characteristics of the county in such diverse views and in comparative style with relation to several segments of criminality and covering several provost organisations.

- Another **novum** is the analysis of the relationship between the public safety conditions by town districts in Hajdúböszörmény and the subjective sense of security of the inhabitants. In the course of this a questionnaire survey was carried out as a **new research method** among the inhabitants according to their spatial layering.

Two fundamental elements of practical application can be mentioned:

- The study may present a **starting base**, a guide, potential research aspects, directions, examples for professionals dealing with the questions of criminal geography.
- The concrete research results related to Hajdú-Bihar county and Hajdúböszörmény and the recommendations based on these **may contribute** to the **continuation of a more successful provost activity**, in the fields of space specific crime prevention and investigation.

5.3. Potential directions of further research

- In my opinion domestic criminal geographical studies **have to focus** on primarily the **settlement** and **within settlement level**.
- **Impact of joining the European Union** on delinquency with special regard to miscarriages associated with the state border and border regions, to illegal migration.
- In order to show delinquency in more complex style to **weight** the **given crimes** with their social danger and to **calculate criminal index**.
- To extend the research onto **offences** as many people consider it as the “hall” of crimes.
- Application of the **mathematic-statistic methods** in a much more diverse style to the character and volume of the connection between criminality and social-economic phenomena associated to each other.