

**ZRÍNYI MIKLÓS NATIONAL DEFENCE UNIVERSITY**

**Doctoral School of Military Science**

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**AIR FORCE IN THE INTELLIGENCE AND RECONNAISSANCE**

author's review of the PhD dissertation

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BUDAPEST, 2004

## **Actuality of the dissertation's topic**

The all-source reconnaissance – included air reconnaissance – should be utilized during the operational and tactical planning and implementation period. Actually the Hungarian Air Forces do not have air reconnaissance capabilities. The necessities of the air reconnaissance information and possible establishment of HUNAF's air reconnaissance capabilities. These main questions determined the dissertation's aims.

## **Aims**

1. To analyze air reconnaissance information and attest their necessities.
2. To find out advantages and disadvantages of air reconnaissance systems with their comparative analysis.
3. To devise out recommendations for air force development with introduction of air reconnaissance cycle.
4. To work out detailed proposals for HUNAF's air reconnaissance capabilities and utilization provided reconnaissance information with feasibility study.

## **Methods of research**

I used general and specific research methods. The general methods were observation, analysis, synthesis and analogy, the specific method was exercise analysis.

## **Research**

*First chapter* I was dealing with air reconnaissance. I reviewed role and categories of tactical air reconnaissance. I analyzed air reconnaissance information, explained its importance for intelligence support of crisis and peace keeping operations. I showed possibilities usage of air reconnaissance information in civilian life and catastrophe situation. I attested necessities of air reconnaissance information.

*Second chapter* I reviewed reconnaissance aircraft and on-board reconnaissance systems. I analyzed and compared the different types of aircraft and sensors, found out advantages and disadvantages of their employment.

**Third chapter** I detailed role of air force in the air reconnaissance. I introduced planning and implementation process of air reconnaissance, highlighted importance and possibility of cooperation with other air force units and army troops. I adverted to personnel and organizational requirements of air reconnaissance system. I drew conclusions for technical and organizational development.

**Fourth chapter** I scrutinized the tasks of HDF and HUNAF, I attested necessities of air reconnaissance. I analyzed HUNAF's air reconnaissance capabilities on base of current systems. I worked out detailed proposals for establishment of HDF's air reconnaissance capabilities and employment of air reconnaissance forces, troops.

### **Conclusion**

- Wide variety of sources is used by reconnaissance to collect information, one of them is the air reconnaissance. I analyzed air reconnaissance information and came to the conclusion, the air reconnaissance information is necessary for planning and implementation of intelligence support of crisis and peace keeping operations, civilian life and catastrophe situation.

- The tasking for different types of air reconnaissance sensors and platforms required count advantages and disadvantages of equipment. The air reconnaissance aircraft has been used since 1<sup>st</sup> World War nowadays the Unmanned Aerial Vehicles play important role. Both platforms have advantages and disadvantages but they complement each other. The air reconnaissance platform has to be equipped with sensors to provide high efficiency. There are several kinds of reconnaissance sensors, the electro-optical and infrared cameras and RF-band radars, based on digital technology, meet the requirements of modern era. The digital technology provides real-time display, the infrared cameras are useable in circumstances of low visibility and the RF sensors are capable collect real-time, multi target reconnaissance information from wide geographical area.

- I am focusing on the next conclusions of the third chapter. The air reconnaissance planning is a multi-stage, combined process, the Combined Air Operational Center is the central planing and command-control element. The planning of air reconnaissance sorties is determined by next factors. The air reconnaissance tasks for air units are defined in Air Tasking Order by CAOC. The success of air reconnaissance sorties depends on the training

level of service personnel, so have to focus on it. The cooperation between army and air force is based on supporter/supported principia.

- The HDF has tasks – deriving laws and treaties – requiring air reconnaissance information. Nowadays the HUNAF has only visual air reconnaissance possibility. To establish air reconnaissance capability – according to my dissertation – I suggest to procure reconnaissance pods for Gripen aircraft and a mobile ground exploitation system. Have to establish the required organizations with personnel and training possibilities. The efficient air reconnaissance support of ground forces is most possible by way outlined in my dissertation.

### **Contribution to knowledge**

1. I analyzed air reconnaissance information. I attested necessities of air reconnaissance information in military and civilian practice.

2. I analyzed comparative the different types of air reconnaissance systems, and found out advantages and disadvantages of theirs employment.

3. I introduced planning and implementation process of air reconnaissance. I drew conclusions from shown planning and implementation process for technical and organizational development.

4. I worked out detailed proposals for establishment of HDF's air reconnaissance capabilities with requirements and possibilities and for application of reconnaissance information provided by air force troops.

### **Recommendations**

I suggest according to my dissertation:

- To use results in the military high education.
- To pay attention to recommendations in the force-development, especially establishment of air reconnaissance capability.
- To apply results in training books.

- To commence new researches on base of my findings.

**Practical adaptability of findings**

In area development of HDF's air reconnaissance capability.

**List of own publications***1. Zoltán Horváth:*

Development of the air reconnaissance and its equipment applied  
Új Honvédségi Szemle 2002/7. p.: 79-90, ISSN 1216-7436

*2. Zoltán Horváth:*

Crisis prognosis and management  
Kard és Toll 2002/2. p.: 16-24, ISSN 1587-558x

*3. Zoltán Horváth:*

Integration – air force development – air reconnaissance capability  
Új Honvédségi Szemle 2003/6. p.: 16-22, ISSN 1216-7436

*4. Zoltán Horváth:*

Lessons of the Iraq war- experiences learnt from coalition air force deployment  
Új Honvédségi Szemle 2003/10. p.: 5-11, ISSN 1216-7436

*5. Zoltán Horváth:*

Introduction of CAOC 4 (especially INTEL point of view)  
Nemzetvédelmi Egyetemi Közlemények 7/3. p.: 33-46,  
ISSN 1417-7323

*6. Zoltán Horváth:*

Dragon Lady: the U-2 reconnaissance aeroplane  
Haditechnika 2003/3. p.: 33-37, ISSN 0230-6891

*7. Zoltán Horváth:*

The intelligence informational system of HUNAF  
Kard és Toll 2003/1. p.: 49-58, ISSN 1587-558x

*8. Zoltán Horváth:*

The cooperation between air and ground forces in area of reconnaissance  
Kard és Toll 2003/2. p.: 39-46, ISSN 1587-558x

9. *Zoltán Horváth:*

Process of reconnaissance information, build-up of intelligence database  
Nemzetvédelmi Egyetemi Közlemények 7/5. p.: 47-59,  
ISSN 1417-7323

10. *Zoltán Horváth:*

The estimation of enemy air force in intelligence preparation of battlefield  
Kard és Toll 2004/1. (in process)

11. *Zoltán Horváth:*

The deployment of air force troops in field of reconnaissance  
[www.zmne.hu/tudtev/doktori/doktorand/horvathz.htm](http://www.zmne.hu/tudtev/doktori/doktorand/horvathz.htm)

### **Essays**

1. *Zoltán Horváth:*

The plain of tactical air reconnaissance in the NATO  
Veszprém, 2002. (Library ZMNE /Kv.370/)

2. *Zoltán Horváth:*

Study about the intelligence informational system of HUNAF  
Veszprém, 2002. (Library ZMNE /Kv.369/)

3. *Zoltán Horváth:*

Analysis of connect between defense planning and reconnaissance  
Veszprém, 2003. (Library HUNAF HQ)

4. *Zoltán Horváth:*

Air reconnaissance systems  
Veszprém, 2003. (Library HUNAF HQ)

5. *Zoltán Horváth:*

INTEL Vademecum for estimation of enemy air force and air defense force  
Veszprém, 2004. (Library HUNAF HQ)

*6.Zoltán Horváth:*

Analysis of reconnaissance information process

Veszprém, 2004. (Library HUNAF HQ)

*7.Zoltán Horváth:*

War against Iraq Background and events of Iraq freedom

Veszprém, 2004. (Library HUNAF HQ)

**Presentations**

*1.Zoltán Horváth:*

The intelligence circle

Place: ZMNE BJKMF Military Air Engineering College, Szolnok, 2003. February  
(HUNAF HQ A2)

*2.Zoltán Horváth:*

The intelligence aspects of doctrines

Place: ZMNE BJKMF Military Air Engineering College, Szolnok, 2003. February  
(HUNAF HQ A2)

## Curriculum Vitae

### Personal details

Name: Zoltán Horváth  
Place of birth: Pápa  
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### Education

1982 – 1986: József Eötvös Secondary School, Tata, school certificate.  
1986 – 1989: Máté Zalka Military Technical Academy, Budapest, radar engineer.  
1997 – 1999: Miklós Zrínyi National Defence University as Military Leader.  
2000 – 2003: Miklós Zrínyi National Defence University, Doctoral School of Military Science.  
2000: Orientation Course for intelligence personnel of the new NATO countries, Bundeswehr Intelligence School, Bad Ems, Németország.  
2001: Tactical Leadership Programme, Intelligence Course, Florennes, Belgium.  
2001: International Defense Acquisition Resource Management Risk Management Course, Budapest.

### Employment

1989 - 1990: 54. Veszprém radar brigade, action station, sector commander.  
1990 – 1992: 54. Veszprém radar brigade, action station, training officer.  
1992 – 1997: 54. Veszprém radar brigade, Training Department, senior training officer.  
1999 – HUNAF HQ, Intelligence Directorate, senior intelligence officer.

**Science work**

2000 – HUNAF HQ science work organiser.

**Languages**

1997: English – intermediate level.

2004: Russian – basic level.