

REPORT

for the follow up project titled “**Capacity Building for Analysis and Reduction Measures of Persistent Organic Pollutants in Serbia**”

Experts from Japan visit, February 2015



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Prof. Dr. Takeshi NAKANO

February 2015,

BELGRADE, SERBIA

MEMBERS OF THE EXPERT GROUP
FROM JAPAN WHO VISITED SERBIA IN FEBRUARY 2015

1. Prof. Dr. Takeshi NAKANO, Osaka University and Hyogo Environmental Advancement Association (professor)
2. Dr. Yasuhiro KANDA, Hyogo Prefectural Institute of Environmental Sciences (director of the Institute)
3. Dr. Shunji HASHIMOTO, National Institute for Environmental Studies (researcher)
4. Dr. Jun-ichi INAOKA, Hyogo Environmental Advancement Association (researcher)

ACTIVITIES REALIZED IN SERBIA PRIOR ARRIVAL OF EXPERTS
FROM JAPAN

1. Meeting with the dean of the Faculty of Chemistry, University of Belgrade (FCUB) was scheduled for Wednesday, February 11, 2015 (10:00h).
2. Official letter of invitation for the Japanese experts workshops scheduled for Tuesday, February 10 and Wednesday, February 11 at FCUB, was produced and distributed to more than 200 e-mail addresses of the colleagues working in the field of environmental protection from University of Belgrade, Pancevo city government officials and Industry (Annex I).
3. Official letter of invitation for the Japanese experts workshops scheduled for Thursday, February 12, Tuesday at Pancevo city City Hall, was produced and distributed to more than 100 e-mail addresses of the colleagues working in the field of environmental protection from Pancevo city, high schools in Pancevo and representatives from the Pancevo City Industrial zone (Oil Refinery, Petrochemical company and Fertilizer company (Annex II).
4. In collaboration with colleagues from Center for the Promotion of Science to more than 5000 e-mail addresses in Serbia (universities, government officials, industry, NGO's) invitation was sent for the prof. NAKANO lecture scheduled for Thursday, February 12 (18:00 - 19:30h) (Annex III).
5. Laboratory for the installation of GCxGC/MS system was prepared - the walls are whitewashed and painted, electrical installation replaced and renewed, new tables were purchased.
6. GCxGC/MS instrument was delivered at the FCUB February 6, and installation was started.

ACTIVITIES REALIZED IN SERBIA DURING VISIT OF EXPERTS FROM JAPAN

1st day, Monday, February 9, 2015 (10:00h-16:00h)

ACTIVITIES PLANNED

- Departure from Osaka Kansai International Airport (23:20h, TK 047; TK 1081).
- Arrival at Belgrade and accommodation at hotel Majestic
- (<http://majestic.rs/>) (Airport "Nikola Tesla", Belgrade, 8:40).
- Visit to Danube river and some of the environmental hot spots in the vicinity of Belgrade
- Acclimatization and adaptation from the flight.

ACTIVITIES REALIZED

Colleagues from Japan had arrived according to the plan, Monday February 9th. Prof. NAKANO, Dr. KANDA and Dr. INAOKA, flight number TK 1081, 8:40h and Dr. HASHIMOTO flight number TK 1083 19:20h. All colleagues were accommodated in Hotel Majestic in Belgrade (Fig 1). Upon arrival, visit and inspection of the laboratory for GCxGC/MS was conducted (Fig 2). Colleagues from Shimadzu company (instrument supplier) were connected the main parts of the instrument and first tests were started. Because of weather conditions visit to Danube river and some of the environmental hot spots in the vicinity of Belgrade was postponed for next day, February 10th.



Fig 1. Arrival of Prof. NAKANO, Dr. KANDA and Dr. INAOKA at the Hotel Majestic in Belgrade.



Fig 1. Visit and inspection of the laboratory where GCxGC/MS will be installed.

2nd day, Tuesday, February 10, 2015 (10:00h-16:00h)

ACTIVITIES PLANNED

- Meeting with the representatives of JICA Balkan office.
- Visit to University of Belgrade, Faculty of Chemistry. Meeting with the representatives of the Project members from Serbia. Discussion and selection of the members of the new team from Serbia who will participate in the 2015 training in Japan. Inspection of the laboratory where GCxGC/MS will be installed.
- Report about activities in Japan and Serbia during 2014 and progress in realization of action plans of the former participants.
- Workshop - "Comprehensive Two-Dimensional Gas Chromatography-Mass Spectrometry in Environmental Sciences and POPs analysis" - Shunji HASHIMOTO.

ACTIVITIES REALIZED

From 10:00h to 11:00h meeting at JICA Balkan Office. At the meeting representatives of JICA Balkan office in Serbia Mr. Toshiya ABE, resident representative of the JICA Balkan Office and Mr. Ryohei ANZAI welcomed colleagues from Japan Prof. Takeshi NAKANO, Dr. Yasuhiro KANDA, Dr. Jun-ichi INAOKA, Dr. Shunji HASHIMOTO and Serbia Dr. Vladimir P. BESKOSKI as well as Mr. Masahiko OTSUKA translator Japanese/Serbian language (Fig 3). They all expressed mutual satisfaction regarding past and ongoing activities and future perspective of the grassroot project. Prof. NAKANO had presented activities planned for this visit.

At the meeting held in FCUB with the representatives of the Project from Serbia, it was discussed about the members of the new team from Serbia who should participate in the 2015 training in Japan. It was proposed that from University of Belgrade Prof. Miroslav VRVIC and Prof. Branimir JOVANCICEVIC should participate in the training (Fig 4). At the meeting, former participants of the training held in 2014, Dr. Mila ILIC and Dr. Jelena MILIC, had reported to Project leader about activities in Serbia during 2014 and progress in realization of their action plans.



Fig 3. Meeting in JICA Balkan office (from left to right): Dr. Jun-ichi INAOKA, Mr. Masahiko OTSUKA, Dr. Shunji HASHIMOTO, Dr. Yasuhiro KANDA, Prof. Takeshi NAKANO, Mr. Toshiya ABE, Dr. Vladimir P. BESKOSKI and Mr. Ryohei ANZAI.



Fig 4. Meeting at FCUB with the Project members from Serbia and discussion about realization of action plans.

After the meeting, workshop - "Comprehensive Two-Dimensional Gas Chromatography-Mass Spectrometry in Environmental Sciences and POPs analysis" was given by Dr. Shunji HASHIMOTO (Fig 5). Comprehensive GCxGC/MS was installed and testing of device was continued (Fig 6).



Fig 5. Dr. Shunji HASHIMOTO holding a workshop titled "Comprehensive Two-Dimensional Gas Chromatography-Mass Spectrometry in Environmental Sciences and POPs analysis"



Fig 6. Installed Comprehensive GCxGC/MS

ADDITIONAL ACTIVITIES REALIZED

After the workshop, visit to Danube river and some environmental hot spots in Belgrade was realized. Four locations were visited: marina "Dorcol" (MD), Cukaricki rukavac (CR), Usce (U) and Zemun quay (ZK) Fig 7. Photos from the experts visit are given in Fig 8-11.

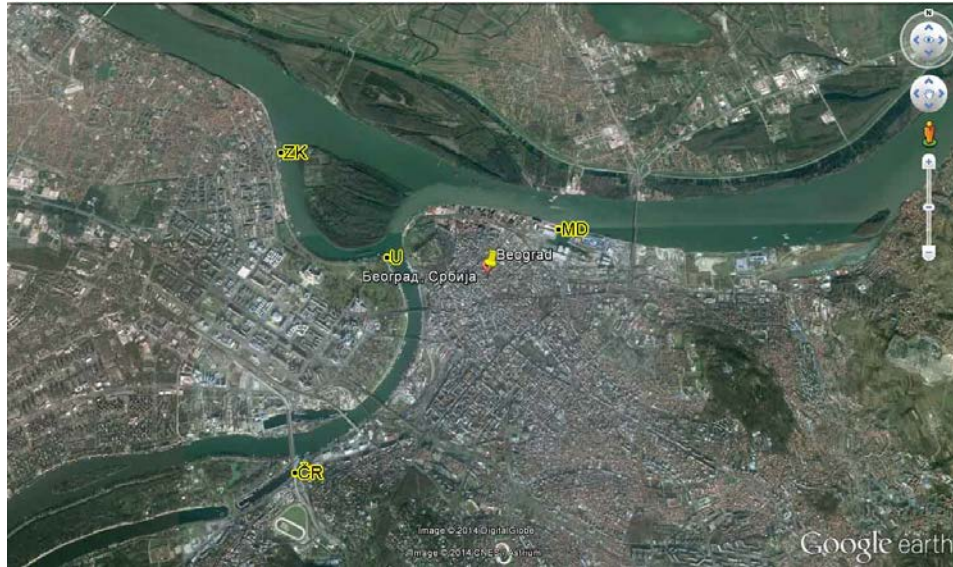


Fig 7. Map of Belgrade city with marked locations



Fig 8. Visit to marina "Dorcol"



Fig 9. Visit to Cukaricki rukavac



Fig 10. Visit to Usce - confluence of rivers Sava and Danube



Fig 11. Visit to Zemun quay

3rd day, Wednesday, February 11, 2015 (10:00h-17:00h)

ACTIVITIES PLANNED

- Meeting with the members of the Project from University of Belgrade.
- Workshop - "How to sample soil samples" - Jun-ichi INAOKA.
- Workshop - "How to sample air samples" - Takeshi NAKANO.

ACTIVITIES REALIZED

From 10:00h-10:30h courtesy call with the dean of the FCUB was organized. At that meeting, Dr. KANDA, director of the Hyogo Prefectural Institute of Environmental Sciences and Prof. dr. Branimir JOVANCICEVIC, dean of FCUB expressed enthusiasm and particularly emphasized importance of collaboration between two institutions from Serbia and Japan. Prof. JOVANCICEVIC gave introduction about history of education in Serbia and University of Belgrade (Fig 12).

After courtesy call, meeting with the representatives of the members of the Project from University of Belgrade was held (Fig 13).



Fig 12. Courtesy call for the experts from Japan



Fig 13. Meeting with the members of the Project from University of Belgrade

In the next three hours, two workshops were held:

- Workshop - "How to sample soil samples" - Jun-ichi INAOKA (Fig 14).
- Workshop - "How to sample air samples" - Takeshi NAKANO (Fig 15).



Fig 14. Dr. Jun-ichi INAOKA holding a workshop "How to sample soil samples"



Fig 15. Prof. Takeshi NAKANO holding a workshop "How to sample air samples"

ADDITIONAL ACTIVITIES REALIZED

In the afternoon, acceptance inspection for GCxGC/MS was organized. Upon installation, standard test were run and chromatograms which confirm proper installation were obtained. It was agreed that the tests continue until the end of the week. After that, meeting with the director of Shimadzu branch office in Serbia Mrs. Jelena LAZIC was organized. On that meeting the contract for GCxGC/MS procurement was signed between two parties (Fig 16-17). Director of the Shimadzu branch office from Croatia Mr. Gordan TOMAC also attended the meeting.



Fig 16. Prof. NAKANO and Mrs. LAZIC signing the contract



Fig 17. Members of the Project and representatives of the Shimadzu company

4th day, Thursday, February 12, 2015 (9:30h-19:30h)

ACTIVITIES PLANNED

- Meeting with the members of the Project from Pančevo city
- Lecture in Pančevo city "Environmental Pollution Control in Hyogo, Japan" - Yasuhiro KANDA
- Workshop - "How to sample soil samples" - Jun-ichi INAOKA
- Lecture "POPs distribution in environment and humans" - Takeshi NAKANO (18:00 - 19:30 Belgrade - in organization of Center for the Promotion of Science)

ACTIVITIES REALIZED

In the premises of the Pancevo city administration building, meeting with the members of the Project from Pančevo city was held from 10:00 - 11:00h (Fig 18-19). On that meeting it was discussed about realization of Action plans of Mrs. Olga SIPOVAC and Mr. Vladimir DELJA former participants of the training held in Japan in 2014. Also it was discussed about soil sampling in Pancevo and analysis of the sample extracts in Serbia and Japan. These results will be of great importance for Pancevo city residence and all stakeholders in Pancevo area. Also it was discussed about the members of the new team from Pancevo city who should participate in the 2015 training in Japan. It was proposed that from Pancevo Mrs. Biljana DJORDAN and Mrs. Vesna PETKOVIC BOROVNICA should participate in the training.

After the meeting Dr. KANDA gave the lecture titled "Environmental Pollution Control in Hyogo, Japan" (Fig 20).

Following the lecture two workshops were organized: "How to sample soil samples" - Dr. Jun-ichi INAOKA (Fig 21) and " POPs distribution in environment" - Prof. Takeshi NAKANO (Fig 22). In the audience, representatives from Pancevo industrial zone (Petrochemical and Fertilizer company), local high schools, NGO's and representatives of the local community were present (Fig 23). Local TV station from Pancevo city recorded the event and produced TV report for their viewers (<http://rtvpancevo.rs/Vesti/Lokal/analiza-kvaliteta-zemljista-15-godina-posle-bombardovanja.html>) (Fig 24).



Fig 18. Meeting with the members of the Project from Pančevo city



Fig 19. Experts from Japan and members of the Project from Pančevo city and FCUB



Fig 20. Dr. KANDA giving the lecture "Environmental Pollution Control in Hyogo, Japan"



Fig 21. Workshop - "How to sample soil samples" - Dr. Jun-ichi INAOKA



Fig 22. Workshop - " POPs distribution in environment" - Prof. Takeshi NAKANO



Fig 23. In the audience representatives from Pančevo industrial zone, local high schools, NGO's and representatives of the local community were present



Fig 24. Prof. NAKANO is giving interview for TV Pancevo (<https://www.youtube.com/watch?v=eydxESsSbjM#t=43>)

In the afternoon from 18:00-20:00 in the Science club premises of the Centre for the Promotion of Science (CPS) Prof. NAKANO held a lecture titled "POPs distribution in environment and humans". The lecture was interactive and followed with questions, discussion and comments from the audience. Before the lecture director of CPS Mrs. Aleksandra DRECUN give short introduction to experts from Japan about the CPS (Fig 25-28).



Fig 25. Experts from Japan and director of CPS



Fig 26. Dr. BESKOSKI is introducing Prof. NAKANO to the audience at CPS



Fig 27. Prof. NAKANO is giving lecture at CPS



Fig 28. Joint photo after lecture in CPS

5th day, Friday, February 13, 2015 (09:00h-17:00h)

ACTIVITIES PLANNED

- Acceptance inspection for GCxGC/MS.
- Visit to some of the environmental hot spots in the vicinity of Pančevo and collection of the soil samples.

ACTIVITIES REALIZED

New chromatograms from the GCxGC/MS systems were acquired and new test were conducted. Service certificate is obtained from the company Shimadzu (Annex IV) as well as Standard Installation Completion Report (Annex V).

Three locations were visited southeast from Pancevo industrial zone and soil samples were collected from the villages Starcevo and Omoljica (Fig 29-31). Soil sampling was conducted with suggestions of Dr. INAOKA.

ADDITIONAL ACTIVITIES REALIZED

Before starting soil sampling campaign experts from Japan and FCUB had visited Institute "Tamis" in Pancevo city and discussed about possible collaboration in the future (Fig 32).



Fig 29. Sampling location 1 - Pancevo



Fig 30. Sampling location 2 - Omoljica

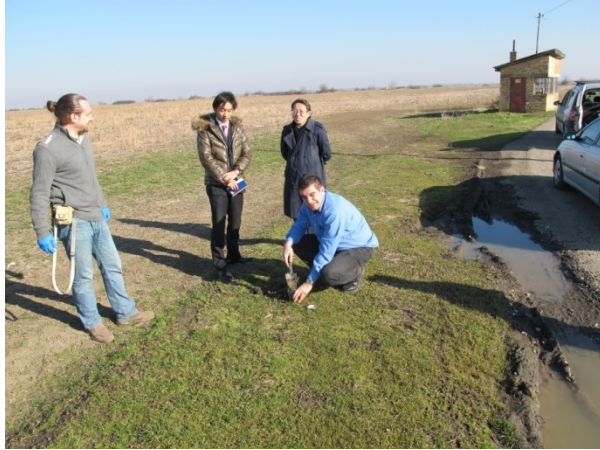


Fig 31. Sampling location 3 - Starcevo



Fig 32. Meeting in Institut "Tamis"

In the evening (20:20h) Dr. Shunji HASHIMOTO had left the Belgrade with the flight numbered TK 1084 (Fig 33).



Fig 33. Departure of Dr. HASHIMOTO from Serbia

ACTIVITIES PLANNED

6th day, Saturday, February 14, 2015 (09:00h-20:20h)

- Visit to Agricultural High School in Vršac
- Lecture for the high school students and professors "How to reduce and prevent POPs pollution"- Takeshi NAKANO (30 min)
- Lecture for the high school students and professors "Reintroduction of the Oriental White Stork and Hyogo Safe Brand of Agricultural Product" - Yasuhiro Kanda (20 min)
- Departure from Airport "Nikola Tesla" Belgrade (20:20h, TK 1084; TK 046).
- Arrival at Osaka, Kansai Int. Airport

ACTIVITIES REALIZED

From 10:00-15:30h delegation from Japan and FCUB had visited Agricultural High School in Vršac. At the meeting with the school director, it was emphasis importance of education for the high school students regarding environment protection and preservation as well as healthy food production. At the school cultural and artistic program was prepared for the celebration of Feb 14, school day (Fig 34-36).

At 20:20h Prof. Takeshi NAKANO, Dr. Yasuhiro KANDA and Dr. Jun-ichi INAOKA had left Serbia (Fig 37).



Fig 34. Agricultural High School in Vršac



Fig 35. Addressing of Prof. NAKANO



Fig 36. Exchanging gifts with hosts



Fig 37. Departure from Serbia

Belgrade, February 14, 2015

Dr Vladimir P. BEŠKOSKI, Assistant Professor, Faculty of Chemistry, University of Belgrade

Prof. dr. Takeshi NAKANO, Research Professor, Osaka University