

STUDY AND RESEARCH CONDUCTED IN THE WORLD HAPPIEST COUNTRY- FINLAND INCLUDING OBSERVATIONS AND EVALUATIONS ON SOCIAL CULTURAL POLITICAL AGRICULTURAL TECHNOLOGICAL NATURAL AND ENVIRONMENTAL SITUATIONS FOR 9-YEARS (1976-84) AS FIRST BANGLADESH PEOPLE

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1. Introduction

After Iceland, Finland is the northernmost country in the world, where one-third of total length lies on the north of Arctic circle. The country's northernmost point is Utsjoki (70°5' 30" N), southernmost point is Tulliniemi (58°48' 30" N), westernmost point is Koltapahtaniemi, Lapland (20°33' 27"E) and easternmost point Virmajarvi of Ilomantsi (31°35' 20" E). Finland's frontier is 3,600km, land 2,571 km, 586 km land boundary with Sweden, 716 km with Norway and 1,269 km with Russia. The highest length covers 1,160 km and width 540 km, with surface area 3,37,032 sqkm, where land coverage 305,475 sqkm and water body 31,557 sqkm. The land area is formed during and after the final stage of last Ice age mostly due to movement of icesheets. Then part of the surface bed rocks turned into soils due to weathering and disintegration processes. Finland is known as low lying fairly flat country, break down of bed rocks for thousands of years with altitude 152m above sea level. Altitudes divide Finland into two-lowlands and uplands. Land is the highest point (1,328m) i.e. Haltiatunturi. One third Finland has 9.4% inland water i.e. 31.55 sqkm. There are 55-75 thousand lakes in Finland with mean depth of 7m covering 3,00,000 km lake shore. The largest lake Saima that is 35th largest in the world (4,400 sqkm) and 5th largest in Europe. Here coastline covers 20,000. There are rather few rocky islands along with west coast. Finland territorial limit runs 4 nautical miles from the coast Finland lies in the snow and forest zone characterized by cold damp winters and warm summers. The summer temp. varies from 13°-17°C with maximum of 30°C, average rainfall 700mm (southwest) and 400mm in the northwestern zone (Lapland) where 30-40% rainfall comes as snow. Snow cover starts in Oct/Nov. and continues to mid-summer/April. In Lapland snow covers continues until June each year. The snow last for 70-100 days in south west Finland, 160-190 days in eastern zone and then 200-210 days in the north (Lapland). The water ways freezes in Oct-Nov. in northern side sea in December and continues until May-June (Lapland). The longest day in the south in hrs. and shortest 6 hrs. but in Lapland enjoys nightless night in summer (70°N), sun never sets for 73 days but in winter it never rises for 51 days.

In 1978 there were 4,513 thousand or 4.5 million people in Finland and in 2000 total population was 4.747 million; and recently in 2023 it was observed/estimated to 5.5 million people in Finland. There are more than 90 large to small cities in Finland. Here 14 cities with approximate thousand, population (in brackets) in 1980s are listed here: (1) Helsinki (488), (2) Tampere (166), (3) Turku (165), (4) Espoo (126), (5) Vantaa (125), (6) Lahti (95), (7) Oulu (93), (8) Pori (80), (9) Kuopio (73), (10) Jyväskylä (63), (11) Kotka (62), (12) Vaasa (54), (13) Lappeenranta (54), (14) Joensuu (44). Through 9 years living and mixing with Finnish people of various categories, the following identical factors-love of Finnish people have been established.

In 2017 Finland had a nominal GDP of \$270 billion and GDP by purchasing power parity of \$240 billion, and it was ranked the 41st country in the world by nominal GDP. In 2014 GDP per capita (PPP) as \$40,455. In 2017, agriculture contributed 2.5% of GDP while industry contributed 16.3%, and service industry contributed 81.3%. Approximately 6% of the population lived below the poverty line. In 2017, the country exported goods worth \$71.5 billion and imported goods worth \$65 billion. Most of the exports were

destined to Germany, Sweden, The US, China, Russia, and the UK. On the other hand, imports originated mainly from Germany, Russia, Sweden, China, the Netherlands, and France. Finnish Mining and metal industries are Ajokki Oy, OUtokumpu Oy, Rautaruukki Oy, Oy Suomen Autoteollisuus Ab, Suomen Malmi Oy, Valmet Oy, Woodworking industry, Enso Gutzeit Oy, Veitsiluoto Oy, Manufacture of chemicals, Neste Oy, Kemira Oy, Energy companies, Imatran Voima Oy, Kemijoki Oy, Others, Oy Alko Ab, Finnair Oy, Oy Pohjolan Liikenne Ab, Televa Oy, Valco Oy and the largest companies are Neste Oy, Valmet Oy, Rauma-Repola Oy, Oy Nokia Ab, Kymi Kymmene Oy, A. Ahlstrom Oy, Oy Wartsila Ab, Imatran Voima Oy, Rautaruukki Oy, Outokumpu Oy, Yhtyneet Paperitehtaat Oy, Kemira Oy, Oy Tampella Ab, Oy Alko Ab, OTK etc.

(Sources: Finland, Facts and Figure, 1979. ISBN 951-1-05391-4, 204 pages)

2. Education and research conducted (scientific contributions) during nine years staying in Finland 1976-1984: Jyvaskyla university

I author arrived in Helsinki on 27 March 1976 and stayed at the guest house of the Ministry for Foreign Affairs of Finland. On 28 March 1976, Helena Quibila, representative of the Ministry for Foreign Affairs of Finland came to me at the guest house and talked for an hour about the life style, cold, adjustment and system of education and responsibility of supervisor. Then she took me with her car to the bank for making an account, and handled me a account bank book where she gave instruction how to use the bank book and to collect the scholarship money. The day was cold and I went with her to a cloth shop and bought an overcoat. After that I had to go for medical checkup to Finnish govt./public hospital. Lastly we went to Helsinki railway station and she talked by telephone to my supervisor Prof. J. Paasivirta. She talked with Prof. Paasivirta about my arrival. She then purchased a Train-ticket Helsinki-Jyvaskyla and handed to me with a brief explanation how I would be able to arrive at Jyvaskyla railway station. Next day Quibila came to guest house, took me with her car to the railway station and directed me to go on my compartment and seat. With thanks, she left but, initially, it was a good story for me in a new country Finland. Prof. Paasivirta at the Jyvaskyla railway station received me and he then arranged for the breakfast at his office room. Then he took me to the Jyvaskyla University student's dormitory (students village) and quickly arranged a seat in a Hall. Next day I was at the Hall office where they arranged my seat at P-house room 802 where another Finnish student Marku was staying (2-students + 1bath and 1 kitchen) who was the LicPhil student of physics dept. Office-secretary Liisa virki at lab. came to take me to the office/Lab. then I followed her where I had to meet lab technicians, MS, LicPhil students (5-8) and 5-8 teachers of the university. At 1.0 clock I took tea with them where they explained as a member of the team how I had to enjoy the tea and coffee with share system. I observed, there is box for adding/payment of money against tea/coffee like as monthly bill for each. There none never ask for payment but through responsibility every one pay accordingly to the front box. There is always tea/coffee biscuits for taking.

My lab. room was in the other building that was in the Tellervonku-8 and main Dept. of Chemistry was on Kyllikinkatu-1 where my supervisor's room was located. Dept. colleague (Assistant) Liisa Virkki moved with me for a week during my coming and going including knowing the things in the market or super mall. During the first week supervisor came to me and moved around showing 5-6 rooms of the lab. and equipments there on the tables. At-that movement, I had no knowledge and experiences on TLC, GC, IR, HPLC and NMR. After a week, he called me to go there for developing the study and research program. Prof. Paasivirta a renowned International chemist and environmental scientist-whose 3-4 friends. Chemist from USA, UK and Germany were awarded, the Nobel Prize including his supervisor of Finland in 1943 (the only Finnish Scientist received the Nobel Prize in Chemistry), he also nominated for 2-3 times too. So, I was happy and very much lucky as I got so rich and renowned scientist as my supervisor. So I met him after a week about my study and research program. He selected 2 LicPhil theory courses on GC and NMR and supplied me 2 books one on GC and others on NMR techniques. He handed 2 books and asked me to go through details and when I would be ready, I had to appear exam. to his room. Again, he selected 4 undergraduate courses on botany, limnology, cell biology and biochemistry and advised me to meet with Prof. Arstila, Prof. Bagge, Prof. Ratikainen, Prof. Muluka and Prof. Hukta for handling those courses.

During 1st 3 months, I appeared exam on Limnology for undergraduate course (1-entire book). Then I met with others and they advised me to collect the courses those I studied in BAU, Mymensingh. Accordingly, I collected copies of courses of syllabus and here they checked, observed, and advised me you reached more than Finnish students for the undergraduate courses, so you do not require any more courses for your undergraduate program. You can directly face LicPhil courses and research.

Regarding the research program for LicPhil degree, it was interesting and historical story where the background of my LicPhil Thesis-covered the aims of Prof. Dr. J. Paasivirta as follows: "MCPA is the largest used herbicide in Finland, Norway, Sweden and Denmark particularly the Scandinavian cold countries where millions of tons of MCPA has been using/applying by plane for control of bush and wild grasses in the forest zone covering 60-70% of the land area. Two-metabolites of MCPA (4-chloro-o-cresol and 5-chloro-3-methyl-catechol) are toxic and hazardous where after application survives as residues in snow but during the winter time of Oct/Nov-April/May. After snow melting mother MCPA and/or its 2-metabolites move to lake, ponds and rivers where they create hazards to fishes, birds or wild animals-by contaminating to water/fishes, and ultimate decreases such birds, animals including health hazards to human beings. Until 1976, there was no analysis method for the detection of the metabolites of MCPA although they have methods for the detection of MCPA alone. Prof. said, it is a challenge for you for food safety for man, animals and birds against the toxic/hazardous residues of the metabolites through developing/establishing of analysis method of MCPA with its 2 metabolites. In case of failure for the detection of one then has to discover/invent one metabolites from the mother compound MCPA. This would be a great success but a challenge for you for the human generation of the 20th century". So, according to his desire and advise, I accepted the research proposal and slowly started the related basic work in the advanced organic Chemistry research lab., Dept. of chemistry, University of Jyväskylä.

Initially, I handled 3-4 research work on techniques for building of sound cleanup techniques. I got very much interest on basis analytical work dealing with TLC and they were required for proper clean up of the main work of MCPA with its metabolites. Dept. synthesized 2 metabolite components. Firstly, I established TLC and GC with MCPA alone in soils and crops, and finally with hard work in 1977-80 I developed TLC, GC, GC-MS, IR, NMR methods for analysis of MCPA and its 2 metabolites, with part of the research/submitted LicPhil Thesis in 1978 and I was awarded LicPhil (PhD equiv.) degree in Dec. 1978. During 1977-83, I visited Norway (1977), Eastbourne (1977), Dublin 1978 for presentation of my article in the conferences. Every year 1977-1983, I participated Finnish Chemistry Days conf in Helsinki and presented articles-poster/oral presentations in the conf. I presented my PhD (equiv. to DSc.) dissertation at Central Auditorium, Jyväskylä univ. on 20 December, 1980 where 350-400 teachers, students, scientists, visitors including Rector (VC) and his wife were attended at the functions of viva-voce that continued for 5 hours (12.01 to 5.00 pm) Prof. Paasivirta said at the beginning. So here is given the title of my LicPhil and PhD (DPhil) dissertations as serial 1 and 2.

- 1) M.A. Sattar, Analyses of MCPA and its metabolites in soils, food grains and vegetables. Lic. Phil. (Ph.D. equiv.) Thesis, Department of Chemistry, University of Jyväskylä, Finland, 1978, 87 pp, ISBN 984-31-0641-X.
- 2) M.A. Sattar, Analyses of MCPA and its metabolites in soils, D. Phil. Dissertation, Department of Chemistry, University of Jyväskylä, Finland, Printed Dissertation, ISBN 951-678-451, ISSN-0357-366X, 1980, 55p.

From the lab. Work at day and night here in the Dept., I also submitted 2 more dissertations to USA open universities for DSc and ScD degrees and the titles of the thesis are listed below as serial 3 and 4.

- 3) M.A. Sattar, Analysis and residues of organochlorine pesticides in soils. D.Sc. Dissertation, Century University, Cal. U.S.A. 1983, 131 pp, ISBN 984-31-0642-8.
- 4) M.A. Sattar, TLC and GC analysis of chlorinated catechols and cresols, Sc. D. Dissertation, Inter. Institute for Advanced Studies, Missouri, USA 1984, 83pp. ISBN-984-31-0643-6.

During my 9-years lab. Research at the Dept. of Chemistry, Univ. of Jyväskylä, I published 20 articles (sl. No. 1-20) in the international journals and they are listed below 1 to 20:

- 1) M.A. Sattar, J. Passivirta, R. Vesterinen and J. Kunntinen. Thin-layer Chromatography of chlorinated catechols. *J. Chrom.* 135 (1977) 747-751.
- 2) M.A. Sattar, J. Paasivirta, R. Vesterinen and J. Knuutinen. Thin-layer chromatography of chlorinated cresols. *J. Chrom.* 136 (1977) 379-384.
- 3) M.A. Sattar, M.L. Hattula, M. Lahtipera and J. Paasivirta, Improved analysis method of MCPA from soil samples. *Chemosphere* 6 (1977) 747-751.
- 4) M.A. Sattar and J. Paasivirta, Gas chromatographic analysis of MCPA in soil by the formation of pentafluorobenzyl derivatives. *J. Asia Soc. Bangladesh (Sci.)* 5 (1979) 25-35.
- 5) M.A. Sattar and J. Passivirta, Simultaneous determination of 4-chloro-2-methylphenoxyacetic acid and its metabolites in soil by gas chromatography. *Anal. Chem.* 51 (1979) 598-602.
- 6) M.A. Sattar and J. Paasivirta, Analysis of MCPA and its metabolites from food grains and vegetables. *Chemosphere* 8 (1979) 143-149.
- 7) M.A. Sattar and J. Paasivirta. Effects of MCPA on the germination and root system of cereal crops. *Chemosphere* 8 (1979) 201-203.
- 8) M.A. Sattar and J. Paasivirta. Fate of the herbicide MCPA in soils: Analysis of the residues of MCPA by an internal standard method. *Chemosphere* 9 (1980) 365-375.
- 9) M.A. Sattar and J. Paasivirta. Thin-layer chromatography of 2-methyl-4-chlorophenoxyacetic acid and its metabolites. *J. Chrom.* 189 (1980) 73-78.
- 10) M.A. Sattar and J. Paasivirta. Fate of chlorophenoxyacetic acid in acid soil. *Chemosphere* 9 (1980) 745-752.
- 11) M.A. Sattar. Thin-layer chromatography of phenoxyacetic acid herbicide. *J. Chrom.* 209 (1981) 423-430.
- 12) M.A. Sattar, Efficiency of pentafluorobenzyl derivative for the simultaneous determination of MCPA and its metabolites in soil. *Chemosphere* 10 (1981) 423-430.
- 13) M.A. Sattar, Persistence of 4-chloro-o-cresol and 5-chloro-3-methylcatechol in soil. *Chemosphere* 9 (1981) 1011-1017.
- 14) J. Knuutinen, T. Leskijärvi, J. Paasivirta, T. Saki, M.A. Sattar, Kloorifenoli yhdisteiden mailliaientukumus analytikka ja selinte, ieen vesistoissa, puunjalostus teollisuus myrkkynuormit tajana Suomessa. *Vesi ja kalatutousmiehet tr: taydennskou tutuspaivat 27-28, 11. 1979. Vemmala. ISBN 951-9547-2-6; Abstract published in Bibliography 1980. (Research Report No. 11, Department of Chemistry University of Jyväskylä, Finland, p. 6, Serial No. 13).*
- 15) J. Paasivirta, J., Knuutinen, I. Korhonen, J. Korvola, T. Tuokkenen, T. Leskijärvi, M., Patkanen, T. Sahi, M.A. Sattar, J. Sarkka and R. Roos, Puunjalostus teollisuuden jateyey myrkkyein allays ointi ja esiintyminen vesistossa (3 ulaotsikka) puunjalostusteollisuus myrkkynuormittajana Suomessa. *VEKARY, Helsinki, Finland. ISBN 951-95471-2-6, 1980, p. 65-83.*
- 16) M.A. Sattar, Persistence of 4-Chloro-2-methylphenoxyacetic acid in soils *Bull. Environ. Contam. Toxicol.* 28 (1982) 384-352.
- 17) J. Paasivirta, J. Korvola, K. Iaihia, Hi. Hakli, A. Talvitie, R. Laalikainen, M. Pitkanen, M. Oksanen, T. Kuririnne, E. Kolehmainen, I. Korhonen, M.A. Sattar, Peralampi, S. Sinkkonen, T. Iaskijarvi, J. Sarkka and A. Roos, Imparts Kemikaalien Pakennetukmus ja Analytikka Suomen Akatemis Luetielo, Suomen Akatemian tutkimushankkeista, Valuation Tuonnontietellinen tomikunta, Helsinki, Finland, 1981, Project abstract P. 287-288.
- 18) M.A. Sattar, Thin-layer chromatography of chlorinated phenols. *J. Asia Soc. Bangladesh (Sci.)* VIII (1982) 1-11.
- 19) M.A. Sattar, Degradation of 2-methyl-4-chlorophenoxyacetic acid in air-dry soils. *Agric. Ecosystem, Environ.* 10 (1983) 75-79.
- 20) J. Paasivirta, M.A. Sattar and R. Pauku, G.C. and M.S. analysis of MCPA and its two metabolites in environment near by the bush killing treatment zone. *Chemosphere* 12 (1983) 1277-1289.

From my own interest, I also handled some own work with formal information with supervisor, during my staying in Finland in 1976-84 and after arrival in Bangladesh here move seven articles were published in the international journals in 1984-89 and they are listed below as serial no. 21 to 27.

- 1) M.A. Sattar, Fate of chlorinated cresols from environmental samples. *Chemosphere* 19 (1989) 1421-1426.
- 2) M.A. Sattar, Fate of organophosphorus pesticides in soils. *Chemosphere* 20 (1990) 387-396.
- 3) M.A. Sattar, Effects of N-bearing salts on GC analysis of MCPA and its metabolites in soil. *Pak. J. Sci. Ind. Res.* 33. (1990) 193-196.
- 4) M.A. Sattar, Degradation of diazinon in soils. *Pak. J. Sci. Ind. Res.* 34 (1991) 274-276.
- 5) M.A. Sattar, Degradation of the residues of aldrin, dieldrin and endrin in two Bangladesh soils. *J. Asia. Soc. Bangladesh (Sci.)* 17 (1991) 145-153.
- 6) M.A. Sattar, Gas chromatography of organophosphorus pesticides in soils by internal standard method. *Pak. J. Sci. Ind. Res.* 35 (1992) 442-444.
- 7) M.A. Sattar, G.C. Analysis of chlorinated catechols in soils by internal standard method. *Pak. J. Sci. Ind. Res.* 37 (1994) 187-189.

3. (a) Finland-the happiest country in the world: General observations

1. Since 2012, the World Happiness Report has been ranking countries according to their level of happiness. The latest report ranks Finland as the happiest country in the world (for the sixth year in a row), follow by Denmark and Iceland. The countries with the lowest levels of happiness are Afghanistan, Lebanon and Sierra Leone. The United States ranks 16th on the World Happiness Report. Interestingly, the Fourth King of Bhutan introduced the concept of gross national happiness (GNH) in 1972, declaring it more important than gross domestic product as a measure of national progress.
2. Often commonly termed “happiness” To understand these differences across nations, researchers have identified characteristics typical of countries with high levels of happiness. These studies suggest that more affluent countries (higher GDP per capita) are also happier, likely because wealth allows access to material goods and public services such as education and health care. Institutional quality-e.g., strong courts and good laws-also plays a pivotal role in shaping happier nations.
3. In 2018, Denmark, Finland and other countries were said to be the happiest one.
4. **Key factors of happiness GDP/Capital:** Social support, life expectancy, freedom to make life choice, generosity and corruption levels scores well and rich covering all these factors. According to Los Angeles Times-World Happiness comes as the education system in Finland has repeated success in national rankings. Finland was ranked the most literate nation in 2016 and the Finns love their libraries. Usually, it is said Finland education system is one of the best in the world where the system includes-
 - i. Basic education-9yrs of compulsory education (1-9th class)
 - ii. Upper secondary education-General or vocational education and training.
 - iii. Higher education-University education.
 - iv. School teaching system include students participation in class where they share their thoughts, perspectives and experiences.
5. There are several factors that contribute to Finland’s happiness rankings. Read on to know what puts the country at the top. (1) Nature, (2) Social Welfare System, (3) Strong Sense of Community, (4) Work-Life Balance, (5) Mental Health Awareness, (6) Low Crime Rate, (7) Gender Equality, (8) Education, (9) Trust Factor, (10) Low Corruption Rate, (11) Happiest conditions for rich countries.
6. The World Happiness Report uses the six factors to rank countries: Income, Social support, Life expectancy, Freedom, Generosity, Corruption. The top three happiest countries in 2020 were: Finland, Denmark, Iceland.
Some other factors that contribute to a country’s happiness include:
Low power distance, High individualism, High masculinity, Low uncertainty avoidance, High Institutional quality.

7. **The Main Reasons to Become Happiest Country include:** First, it has been observed that money or economy, health, freedom, family and relatives are the five most important factors that essentially contribute to becoming a country happy. If a country has a good financial and stable condition then it will automatically prosper and flourish in all respect.
8. **Other Factors contributing to the Happiness of a Country:** It is said that each and every people have the freedom of speech and expression. Happiness is the priority of each and every person on earth. If a person is happy then a country will automatically progress and attain success.
9. **Learn What Makes Finland The Happiest Country In The World?** If there is an educated people and educated society, that country will always be happy because this is the main factor for happiness.
10. **Social security in Finland:** Finland's social security system is based on residence and employment. The Social Insurance Institution of Finland, Kela, administers residence-based social security, which is funded by taxes. Employment-based social security includes: Earnings-related pensions, Insurance against occupational accidents and diseases, Unemployment benefits, Parental allowance, Sickness allowance.
The Finnish social security system is designed to provide people with sufficient economic security and assistance in all life situations. It consists of a range of services and cash benefits.
Social security helps in situations where the need for assistance is due to old age, disability, illness, unemployment, the birth and care of a child, loss of a provider, participation in rehabilitation, studying, Employers are reimbursed for arising from their employees' sickness absences and family leaves the provision of occupational health services.
11. **Benefits:** National pension insurance fund, National health insurance fund, Earned income insurance comprises, Benefits are available under the medical care insurance scheme:
 - a) reimbursements for medicine expenses,
 - b) reimbursements for physician services and dental care,
 - c) reimbursements for travel costs,
 - d) reimbursements for examination and treatment costs, and rehabilitation services.

(Source: Online sources)

3. (b) Author experiences-Finland the happiest country of the world

Author nine years' staying in Finland (1976-1984: 3000 days) and, worked and studied with Finnish people covering their life styles, social, cultural, political, educational agricultural and technological, achievement, tourism-industry, food safety, sound nature and environment where he properly discovered the liking (love of) and disliking matters of Finnish people, and from all those like the following liking (love) and disliking facts/figures make the Finnish people as the happiest nation as well as happiest country in the world.

(i) Love of Finnish people

- 1) Love of people
- 2) Love of nature
- 3) Love of books
- 4) Love of Finnish products
- 5) Love of own culture
- 6) Love of hard works
- 7) Love of sauna
- 8) Love of own responsibility
- 9) Love of nation and the country
- 10) Love of summer days
- 11) Love of sports and ice games
- 12) Love of summer tourist trips
- 13) Love of alcohol
- 14) Love of forests
- 15) Love of mushrooms
- 16) Love of running exercise
- 17) Love of truthfulness
- 18) Love of christmas

- 19) Love of minimum talking
- 20) Love of mother tongue
- 21) Love to live independently or single family
- 22) Love of small family with 1-2 children
- 23) Love to enjoy hotel dance
- 24) Love of ornamental plants and home gardens
- 25) Love of time table
- 26) Love of summer cottage
- 27) Love to take food in time
- 28) Love of mother's and father's day
- 29) Love of strong sincerity
- 30) Love and faith on social security
- 31) Love of food safety and health safety measures

(ii) Disliking matters of Finnish people

- 1) Dislike politics
- 2) Dislike false statement
- 3) Dislike corruption
- 4) Dislike pushing back
- 5) Dislike unfair means
- 6) Dislike cleaverers
- 7) Dislike of late sleeping
- 8) Dislike for breaking of schedule of any programme/delay work.

(iii) The general National Happiest identical factors for Finland

Some of the general happiest factors for Finland are listed below:

- 1) Nature
- 2) Social welfare system
- 3) Strong sense of community
- 4) Work-life balance
- 5) Mental health awareness
- 6) Low crime rate
- 7) Gender equality
- 8) Education
- 9) Trust factor
- 10) Low corruption rate
- 11) Strong per capita income
- 12) Minimum unemployment problem
- 13) Wide responsibility and sound sincerity to the people
- 14) High utilization of own products

4. Evaluation and observations of Finnish social environment

Finnish people socially are very rich nation and possess lovely behaviour with a lot of promising characteristics. Through nine years living at Jyvaskyla and passing everyday life here and there with hundreds of people their social qualities observed are listed here: (1) Friendly, (2) cooperative, (3) sincere, (4) well wisher, (5) helpful, (6) show no difference (all are human), (7) no dominancy/superiority, (8) peaceful, (9) responsive, (10) no critical, (11) well understanding, (12) sound knowledge, (13) faithful, (14) no hard attitude to foreigners, (15) no afraid of cold/snow, (16) live to stay in a small family, (17) give honour on children's decision, (18) apply truthiness to everyday life, (19) not talkative, (20) not selfish, (21) gentle come and quite.

For my study and research the following professors and scientists like (1) Prof. Dr. Paasivirta, (2) Prof. Dr. Korvola, (3) Prof. Dr. Bagge, (4) Prof. Dr. Hukta, (5) Prof. Dr. Mukla, (8) Prof. Dr. Lentinen, (9) Prof. Dr. Rakkinen, (10) Prof. Dr. Hattala, (11) Prof. Dr. Elurenta, (12) Prof. Dr. White were directly and/or indirect connected with me and most of them were interested to-know about our new established country Bangladesh including facts and figures of the liberation war. They smoothly cooperated with me about the

progress of my study and research and also helped largely for proper facing the social, cultural, language and food problems like as guardian, relatives and/or family members. Some of them helped me for govt. free nursery facility of my children (boy and girl) as I was a Finnish govt. scholarship holders. Gradually we succeeded to develop family friends with the following 15 families-(1) Prof. Dr. Paasivirta, (2) Laukarinen, (3) Dr. Hyninen, (4) Makinen, (5) Vestirinen, (6) Virkki, (7) Vaalivera, (8) Pitkanen, (9) Virtanen, (10) Pananen, (11) Ahonen, (12) Lehto, (13) Antonen, (14) Lentinen.

During nine years staying in Finland (1968-84), the family friends were developed through our children boy and girl. We were staying at Jyvaskyla University student's village but my wife was studying at Helsinki University. During visit to Helsinki, two families took care of our children with their children. During weekend, we visited with them to their summer cottages and stayed there for 2-3 days. Most of the weekend we were busy. There we enjoyed mid-night summer sun, outside firing, boating and fishing. With some families we visited seashore, tourist sites, picnic spots, zoos, forest visits and collection of mushroom, new years day gathering, visit to museums with children. On birthday occasion of my children, we also invited 50-80 of our personal and family friends at our home for peaceful social family gathering. They carried us with their cars to visit their home or summer cottages.

Again, I had 15-20 Finnish friends like (1) Dr. Markku lento, (2) Dr. Knutinen, (3) Dr. Tuiya, (4) Dr. Lissa, (5) Raiya, (6) Eva, (7) Saiya, (8) Voukko, (9) Anne, (10) Pekka, (11) Ullah, (12) Anti, (13) Jorma, (14) Eiya, (15) Soili, (16) Virpi. They were office team workers and parents of the children of our boy and girl. Here some one even came from social office to help my wife how to cook the children food particularly methods for proper taking care of the children. Sometimes during sickness of our children like cold, fever, cough, they helped us to go to doctor and at night for right finding of the medicinal shops. Because very limited shops were opened after 10pm. 2-3 times family friends visited us how to use sauna in Finnish system with children for greater benefit of them. Because after sauna bath 100% children immediately go on sound sleep. Dr. Markku was my room mate before arrival of my wife and child, so he helped me for proper adjustment in climate and nature of Finland. My daughter Klaara (Finnish name) the first Bangladeshi baby was born at Jyvaskyla Central (Keskus) Hospital as first Bangladeshi I stayed Jyvaskyla for 3000 days (March 1976 to June 1984). My wife Prof. Dr. Afroza Sattar, first woman principal at Cadet College services of Bangladesh completed PhD from Helsinki Univ. in 1976-83 and also handbed postdoc, research in 1984 on social studies of Finnish people, she collected data from 68 Finnish people covering 38 professions and their professions are listed below:

(1) Engineer (product development), (2) Architect, (3) Army captain, (4) Factory director (technical), (5) Foreman, (6) Nursery teachers, (7) Baby seater, (8) Design technician, (9) computer operator, (10) Car mechanics, (11) Hotel manager, (12) Specilized nurse (hospital), (13) Dress maker (tailor), (14) Office secretary, (15) Home service nurse, (16) Bank officer, (17) Bank clerk, (18) School head master, (19) School teacher, (20) Hotel worker, (21) Accountant, (22) Technician, (23) Business advisor, (24) School councilor, (25) Lawer, (26) Librarian, (27) Warrant officer, (28) Typist, (29) Retired (person), (30) Gardener, (31) House builder, (32) Book shop assistant, (33) Electrician, (34) Teacher of vidual, (35) Factory worker/labourer, (36) Book seller, (37) Students with summer job, (37) Enjoying unemployed honorium, (38) Jobless students. Arija and Sirku loved our children as grand children. They very often sited us and took special food for children. They feed them. Sometimes they took the children to their houses too.

5. Evaluation and Observation of Finnish Cultural Practices

Finnish people are culturally (music area) rich for the last 200 years. The widely used music culture covers concert, orchestra, folk song, folk dance, eurovision song etc. Local theatres are also popular where most of the cities have theatre halls. Farm related folk cultures are very much popular and widely uses at the tourist sites (spots) for attracting the foreign tourists. During 1980s the popular Finnish singers were Karti Helena, Laya Laby, Mikko Alatalo, Armi, Dhane, Righi Sorcha, Perio Kaupinen, Vesa Mutty Loyri, Ami Aspaloon and some other music singers. The examples of cultural programs among the Finnish people are listed below:

- 1) Wide celebration of little Christmas and Christmas are the religions functions hold/open at all organizations like offices, nursery school, kinder gartens, schools, colleges, universities, Depts., training centers, research centers, shops/markets i.e. everywhere the programs covers/includes a lot of Christmas songs (religious culture).
- 2) To any birthday celebration and/or marriage ceremony covers various musical programs with or without dances.
- 3) New years celebration covers a huge program throughout the country those cover food, drinks with music and dances.
- 4) There are theatre halls to most of the cities where regular musical and other cultural functions are organized.
- 5) In Finland, Eurovision song competition is a strong musical celebration where lots of participants are involved showing an wonderful and colorful musical game.
- 6) All departmental large shops/stores/shopping malls at different cities very often organize various cultural programs/songs through advertisement of various new products.
- 7) Most offices/institutions during picnic/group visits/programs use various cultural/musical songs/orchestra music on dance/minor theatre programs/functions during journey (vehicles/trains) and/or sites.
- 8) There are lots of musical institutions in the country where they very often organize different musical songs, orchestra, dance, theatre, folk dance, folk music/songs etc. throughout the year covering a huge gathering.
- 9) Nursery or kinder garten schools, secondary/technical schools make 1-3 visits (summer, winter snow, spring/autumn) with students and guardian in the parks, zoos, tourist spots where they go through/participate and enjoy various cultural functions/programs.
- 10) University library and public library have separate sections where children participate and enjoy various music songs, cultural programs and vedios.
- 11) 1st May (Vapo paiva) day is very renown in Finland and at that day 100% people go out and enjoy here and there with direct and/or indirect participation to one or more cultural programs/entertainment.
- 12) Every year, the Ministry for Foreign Affairs of Finland arrange/organize one or more Christmas party mostly at Helsinki with their scholarship holders of different countries where program covers with various cultural activities like Christmas songs, dance, discussions, typical Christmas of some countries food and drinks.
- 13) During Christmas time, all churches organize various cultural activities including various popular Christmas songs/prayer songs-provides an wide religious culture of the nation.
- 14) During summer time (June, July and August) most Finnish people like to go on vacation where even one Minister has to take care to several Ministries (summer leave of others). During such wonderful time, they usually go on trips (home or abroad) with direct/indirection participation/enjoyment of the cultural activities/shows.
- 15) In Finland, most of the residential area included one or more typical grill parks where someone or family members make grill foods including enjoying with own/family musical songs or playing with typical musical instruments.
- 16) During marriage ceremony, marriage anniversary/day, both families arrange different functions in large hotels, parks or other places where they arrange various cultural programs-songs, music, dance, folk songs, story telling, lottery games including a lot of food items.
- 17) During mother's and father's day children arrange small or large party including various songs for honouring of the parents.
- 18) All five star hotels in the cities regularly have the cultural shows like different songs and dances. Such culture and dancing program help to develop initial friendship particularly the young boys and girls. This tradition is very rich in Finnish culture.
- 19) During summer days-families or family with relatives pass the sunshine in the lake side or sea shore where some people carry musical instruments and enjoy the day time or sunny day with various songs. This culture is also very popular in Finland.

- 20) In the student villages where there grass fields near the halls/residence some students in the summer days enjoy the sunshine in the field where they pass the days with various songs or using of musical instruments.
- 21) In Finland, each and every family is culturally rich where they play songs or group songs together at home from childhood to old ages. This cultural maturity help the Finnish people to live alive near to hundred years.
- 22) The Finnish TV very often shows various cultural programs like songs, dance, folk dance, orchestra etc. where family or children at home indirectly participate with the dance, songs etc.

The man Elias Lonnrot who compiling Finnish folk literature the Kalevala published by him in 1835 wonderfully raised the Finnish language and position in the world. Alvar Alto was a renowned architect in Finland who designed Finlandia talo in Helsinki and Hall of University of Jyväskylä. Jean Sibelius was a great Finnish composer in music was renowned in the music history of world.

6. Evaluation and observations of Finnish political environment

The supreme executive power is listed in the President who is elected by the Finnish people for a term of 6 years with a Electoral college of 300 Members. The Finnish political ground is smooth, peaceful, natural and has been running with sound and positive atmosphere for the last 100 years after the independence of 1918 from its first President K.J. Stahlberg (1919-1925). During (1919-1984)-15 times Presidential election was held where U.K. Kekkonen elected 5 times like as in 1956, 1962, 1968, 1964, and 1978 who ruled and developed Finland as Golden as well as 100% neutral and peaceful country in the global village. During the last one hundred year several international peaceful meetings of the world were hold in Helsinki-the capital city of Finland. After the death of President Kekkonen, then there was the President Mavno Koivisto and at that time in 1980s there were some joking and Parodi songs by Finnish singers against him. I was in Finland in 1976-84 and obsered those songs as an art of enjoyment and never used as political issue and no question of govt. action.

Finnish politics covers a multiparty system. The system is that the balance of political power has altered little from election to the next. There are 11 political parties in Finland and they are listed here:

- 1) National coalition party (NCP)
- 2) Swedish People's party (SFP)
- 3) National Progressive Party
- 4) Liberal Peoples party (LKP)
- 5) Centre party (CP)
- 6) Finnish Rural party (SMP)
- 7) Finnish Christian League (SKL)
- 8) Finnish Social Democratic party
- 9) Social Democratic Opposition (SDP)
- 10) Finnish People's Democratic League (SKDL)
- 11) Finnish Communist Part (SKP)

There are 200 seats in the Parliament during 1945-1979 there were 11 times voting where no party covered absolute majority and the majority seats occupied by Finnish Social Democratic party (36-54 seats), National Coalition party (26-47 seats), Centre party (35-56 seats), Finnish people's democratic league (36-50 seats) Swedish People's party (10-15 seats), Liberal People's party (4-13 seats) etc.

Finland follows parliamentary system with free and fair elections and never comes any objections against the system. Finnish citizen over 18 years can cast his/her vote for the following: (1) President, (2) the parliament, (3) MEPs and (4) the municipal. Presidential election runs after 6 years, parliamentary and municipal elections come after 4 years and European Parliament election after 5 years. The Presidential election was hold on January 28, 2018 where Sauli Niinisto won the chair in the first round receiving of 60% votes. Parliamentary election can be held usually on 3rd Sunday in March of the particular year. Usually, such PE as held on 3rd Sunday in March of 1991, 1995, 1999, 2003 and 2007, 17 April, 2011 and 19 April 2015 for 200 seats.

Around 2,000 candidates from 18 parties compete in the PE where election of 16 March 2003 showed the result covering 55 seats from centre Party and 53 seats from Social Democrat Party but the election of 2007 produced the result like 51 seats from centre party. National coalition got 50 seats and SDP 45 seats. Election of April 2019 got the space for social Democratic Party (17.7% voted) where Antti Rinne resigned as Prime Minister following the posted service scandal in Dec. 2019. Then Marin occupied the chair who was the world youngest serving Prime Minister after being sworn into office in Dec. 2019.

Finland has universal healthcare and successful school system.

Practically, Finnish people do not like politics. What is going on in the politics and how they are working for peaceful and sound living status of the people including developing the country, and those are the things for voting criteria. The country is so peaceful nobody knows about the election. People can send voting paper by post. No political meetings, rally or discussion are not visible through out the country. From the party, they make banners centrally, and by using trucks few workers move in the city, they fix those posters covering all names in a single poster. Single poster with a single person rarely visible i.e. group persons included in a single poster. In one city-selected few sites are taken for standing of posters and after the election-next day 100% posters/banners are removed by the party's people. It is same for all the parties who passed, failed or became Minister-none never think for that. It is the headache for different political party's matter. There system runs like knowledge based politics and never think it would run/move as politics's based knowledge.

Those they are working as public function as Minister and handle 100% neutral responsibility as MP and/or as Minister. Party to party differences is 0% i.e. no none never fight against other parties. They always think-they are same in respect of politics and for any problem they solve together and never think from which party he/she belonged to. During preparation of Helsinki Metro Rail in 1980/81, the first train didnot run properly and in the next day, the Rail Minister resigned immediately. Normally, Ministers donot require bodyguard/personal security services. During 1976-84, Minister of Foreign Affairs invited us (me and my wife) during Christmas as Scholarship holder, where we were friendly talking with Minister where he asked us about our lives, foods, problems as foreigners. He attended the program by driving himself of his car and no driver. Once I was shopping at Helsinki Dept. Mall (Stockman) where suddenly found Mr. Virolainen who was the candidate for PM or President where he was purchasing book/pen as a single man no security.

There people dealing with politics for the developing the nation and national images and never think for any benefit for themselves. It is a public service and never superior to people. For particular problem/analysis or suggestion, there govt. take opinion from univ. prof. i.e. honour and respect of univ. prof. is the greatest and uncomparable to any one.

7. Evaluation and observations of higher education in Finland

Finnish higher education system covers under graduate program of 3-5 years, graduate/postgraduate of 2-3 years for master's degree program and (then licentiate philosophy : LicPhil-PhD equivalent) and then PhD or DPhil degree. Undergraduate program covers a lot of course works, master's program include course work and research/thesis, for LicPhil include 2-3 advanced course work and major research with unpublished (sometimes published) thesis and PhD requires 3-5 publications in the international journals (printed reprints) and printing of the thesis covering printed articles and summary of works. Usually LicPhil degree is widely used and approved in the Scandanevian countries (Finland, Norway, Sweden and Denmark)as equivalent to PhD degree. PhD is widely valuable and very much honourable degree in Finland particularly in the Scandenevian countries where during Viva voce examination hundreds of people attended in that large ceremony. On 20 December 1980, I faced my PhD Viva voce examination for 5 hours (12-17 hours) where more than 400 people (teachers, students of different universities) including Rector (VC) and his wife attended the ceremony. Before, Viva voce exam. I had to give the Dissertation to the Rector and invited him for his presence in the occasion; he then replied me, "Our university has been running since 1937, and here you are the first foreigner is going to complete PhD degree. So, the university will remember you until its existence". I was feeling proud with those words of Rector. Practically, the

dissertation ceremony (viva voce) was done through wide circulation of invitation by the university to the different universities of Finland as well as circulation in the daily local newspaper including in the university Bulletin. This was the normal practice for PhD dissertation presentation at all universities in Finland. After 5-hours viva voce exam. regarding asking of hundreds of questions, I asked the opponent-the examiner how he manage to prepare so many questions. The fact was that the examiner asked hundreds of questions from printed publications of articles in *Chemosphere*, *J.Chrom*; *J. Amer. Anal. Chem.* He then replied, he sent all these reprints and thesis copy to 2-professors who made/prepared questions for him. But for LicPhil.-Thesis I did not face even viva voce because I participated several inter. conferences, presented articles and even at the Jyväskylä Univ. too. But I faced troubles with LicPhil articles where one of the examiners was good friend of mine where she did not like to accept the data of one article published in *Chemosphere*. Then Examination Committee/Board sent to the third examiner Prof. Mukula with their request for lab verification of that expt. and data. Supervisor advised me, “do not worry-such things will make you more stronger”. The fact was, I did not add her name in that publication. I was really upset of this matter-I was thinking this is the case for me but indirectly would affect-the images of supervisor as well as my univ. of Bangladesh and Bangladesh govt. Once Prof. Mukula came and added different concentrations of MCPA and/or its 2 hazardous metabolites to my samples where I had to analyse 8-10 samples where 5-6% error was found. Prof. Mukula congratulated me. Somebody were thinking to get error of 20-50% but that's not. For PhD dissertation in 1980 Committee again made Prof. Mutuka as Examiner and he returned the dissertation with his acceptance together with his high scientific comments showing a renowned scientist.

That was the great success and excellent contribution regarding GC analysis methods of MCPA and its metabolites in soils, crops and vegetables. Initially 3-4 undergraduate courses were selected, then I discussed the matters with Prof. Dr. Ratikainen, Prof. Hukka, Prof. Mukula, Prof. Arstila and Prof. Bangee and they then advised me to collect the courses those completed in Bangladesh (BAU) during undergraduate program. Accordingly, I did it, and they reviewed and finally removed/omitted those courses although I completed one course of Prof. Dr. Arstila of Cell Biology.

In Finnish system, LicPhil and PhD (D.Phil) theses must be in English. Their quality of higher education is very rich and renowned internationally. Finland is a large country with population of 5.5 million (35 times lower in comparison with Bangladesh) where they have around 20 universities and the list is given below:

(1) University of Helsinki, (2) University of Turku, (3) Swedish university of Turku, (4) University of Jyväskylä, (7) Helsinki university of Technology, (8) College of Veterinary medicine, (9) Helsinki school of economics, (10) Swedish school of economics, (11) Turku school of economics, (12) School of economics of Abo Akademi, (13) Vasa school of Economics, (14) Lappeenranta university of technology, (15) Tampere university of technology, (16) University of Kuopio, (17) University of Joensuu, (18) Oulu University.

During my 9 years (1976-84) staying at Jyväskylä, I attended 15-20 PhD viva voce examination/ceremony where programs ended within 45-90 minutes but as I was foreigner it took/required 5 yrs. (12-5) for reviewing of English as well as scientific activities. My wife faced her LicPhil dissertation viva voce for an hour.

I was working with Prof. Dr. J. Paasivirta under the scholarship from the Ministry for foreign Affairs of Finland for my LicPhil and DPhil (PhD) degrees, and postdoctorate research with Fellowship from the Ministry of Education in 1982-83. After completion of my degrees, my scholarship was stopped but then Finnish govt. offered scholarship to my wife Dr. Afroza Sattar. Initially, in 1978-80 she received the scholarship from Helsinki university. She also completed her LicPhil degree from the Dept. of Geography under the Supervision of Prof. Dr. K. Rikkinen where Dr. Afroza directly completed 2-3 licentiate courses. One of our friend's wife tried for LicPhil in social sci. but the Dept. recommended for master's program then she stopped. For our education Finnish language was not required but we attended the Jyväskylä univ. language courses for 2-3 months. I can understand 70-80% and Dr. Afroza can 80-90% Finnish language. As we were govt. scholarship holder, so our children (boy and girl) were in the nursery home without

money (free of cost). Although we left Finland in 1984 but still they (children) have some Finnish friends where they communicate as nearest and dearest ones.

8. Evaluation and observation of road accident situations in Finland

Finland-the happiest country in the world rarely occurs road accidents even the country enjoys Oct-April snow coverage to the land surface. Annual road accident deaths are minimum. Only mid-summer night (24th June) and new years day-Finnish people face some accidents because of high alcohol drinks. After alcohol drinks-sometimes some one can hide the fact to the police and quickly reaches to be drunk and at that situation drinking causes accidents and then death mostly to drivers and/or family members. During 9 years staying in Finland (1976-1984) where rarely it was shown in the TV news or newspaper regarding the road accidental death cases. During 9 years my family (me, my wife and children) visited Finnish friend's house (20-25 friends) for more than 100 times but never faced anywhere a road accident. Even during visiting our friends/house, the journey was smooth and enjoyable. Road accidents and death of some people to different families is the common game to every day life of Bangladeshi people. On 16 Jan 2024, it was observed from BTV and other channels that in 2023. There were 5954 people killed by road accidents. Perhaps, such road accident occurrences of Bangladesh are highest in the world. For practical minimizing of such problem, govt., NGOs and others should work properly. This should be given as first priority of the govt. for minimum road accident in the country.

The following causes minimize the road accidents in Finland although alcohol drink is the common practice for everyday life.

- 1) There are laws behind the running of vehicles at rural and urban regions and 100% people respect and follow those laws and never go beyond that/those.
- 2) During running of cars/vehicles all people must use belt and no options on it.
- 3) Usually most people change cars after 5-8 years, so no complexity arises with engine or other parts.
- 4) In Finland, after well trained people can get driving licence and never arises questions of fitness and/or licence card.
- 5) The roads are well and smoothly constructed covering life of more than 50 years so road accidents are rare.
- 6) All highway roads are well protected at two/both sides so that none can pass/cross the roads. Moreover, none never do that.
- 7) Cars and vehicles always stop at the parking place and never stand/stop in the unknown sites/other than parking site.
- 8) There are millage/km marking at the roads/road sides per hour and people/driver follow that accordingly.
- 9) Drunk people never drive a car until and unless he/she is quite normal and such conditions are checked by road police all the time day and night.
- 10) Drunk people move here and there at the urban roads or near to hotels where police take them to the resting place (house for drunk people) and normal condition they go home by themselves or police help them.
- 11) 100% people follow zebra crossing for crossing the roads.
- 12) Overtake is strictly prohibited.
- 13) Traffic is controlled by light signal and deals by the police.
- 14) People are bound to use 2-types of tyres winter type (September to May) and summer type (June to August).
- 15) Road light signals never fail or never wrongly handled.
- 16) For bad/poor constructions of roads, highway roads, underground or railroad etc. i.e. if problem arises then Rail or Communication Minister are bound to region from his/her job taking of failure of the responsibilities.
- 17) Road business rarely arises but quickly comes to the normal one.
- 18) There are separate roads for motor bike and bicycle and separate footpath for public uses.

- 19) During severe cold weather battery can be frozen so people use charger creating running condition of cars.
- 20) Bus driver is the powerful person where he/she controls/solves all problems during driving, particularly if any problems arises with people/public.
- 21) In Finland, right hand driving is followed.
- 22) All driving schools are properly handled where one can get license only after 100% success of the training covering of both theory and practical/field classes for 3-6 months.
- 23) The causes of minimum road accident with minimum death cases of Finland.
- 24) Road lightings and car lightings are properly managed and never go on failure of road lightings.
- 25) For road damages poor roads etc. related authorities have to take care responsibilities.
- 26) All road repairing works are done at night.

9. Evaluation and observation of Finnish tourism industry

- 1) Finnish tourism industry is very rich and one of the largest industries in Europe.
- 2) Each and every city of Finland large or small there is a tourist guide office although large city has many more such offices.
- 3) All city tourist offices deal with a lot of tourist packages home and abroad.
- 4) Most tourist packages are good enough and Finnish people have strong faith on the program where they regularly utilize those short and/or long trips/visits.
- 5) Tourist visits/packages are available covering of 4 seasons-spring, summer, autumn and winter.
- 6) From children to adult/old there are tourist trips.
- 7) Every season include some special and/or common trips/visits.
- 8) Tourist trips/visits and/or packages generally covers return fairs, food, drinks, local trips, sight/seeing, hotels, market visits, visiting of special tourist sights etc.
- 9) Many packages include to visit special zone like for special food, drinks, games, zoos, sea shore, lakes, boat trips, folk dance/folk songs, mushroom collection in forest, historical places, historic monument, botanical garden, children park, olympic sport, cross country skiing sites etc.
- 10) 100% people like tourist trips particularly in summer days although winter is also a special for downhill and cross-country skiing.
- 11) Tourist package may also cover to visit one or more European countries, USA, Canada or Australia too with English speaking guide (if needed) but normally with local/national guide.
- 12) Some agencies also arrange package/tour for 15, 30, 45, 60 days or upto 3 months trip with a view to learn English speaking courses and such trips are helpful for school or college students.
- 13) Finnish never think for money and must utilize summer trip and even by the Ministers too. This help for working capacity during winter days.
- 14) All school, nursery school, kinder garten school, college, university students, Dept. students may utilize for long day tourist trips even with parents.
- 15) Tourist net work in the country is very much helpful where the trips may cover bus trip, plane trip, train trip etc. where the costing charges are minimum with a standard rate. Even they arrange national and/or international students trips with 50-60% discount of plane fair upto 35 years of ages.
- 16) In the tourist offices 100% workers can speak English and/or other European languages so they can help quickly to the foreigners.
- 17) They display different national/international tourist book/guide book so that tourist can choice their programme.
- 18) Even society, cultural group or educational institutes may arrange a few day trips for language courses of children-school/college students as a field trip.
- 19) Every city and country has good tourist trip maps so that people can move according to own/family choice.

- 20) It is observed during school and/or college life 70-80% of the Finnish children visited at least some countries of Europe because they never face visa problems for travelling from one country to another.
- 21) Foreigners never face any problems, once they come/contact to the tourist office then they have all kind of information/guideline for helping the others.
- 22) Every tourist office carries posters, bulletins, leaflets, maps, books and all information of the respective city as well as other cities and country as a whole-so safe and peaceful visit can be expected.
- 23) Each office maintain year-round programs for the tourists from home and abroad and carryout/follow accordingly with peace and happiness.
- 24) Even every railway station, airport has tourist office where they help smoothly so that people can move without hesitation.

10. Evaluation and observation of Finnish nature and seasons of the year

Finland enjoys 4-distinct seasons within the year. Season shows variable temperatures in day and night, sun rises or not, snowfall conditions, foggy nature, snowfall disasters, short or longer sunny days, windy days, forest appears with pink colour and gradually changes to variable colour with prominent red and then yellow colour. Each season is rich with its dominant distinct, typical and original characteristics. Here 4-seasonal characteristics of Finnish environment are listed below:

I. The great winter under Finnish environment

- 1) The mean temperature mostly goes below $\pm 0^{\circ}\text{C}$ although airflow and sunshine can rise above 0°C .
- 2) In Lapland winter begins from mid-October and other parts late Oct. to Nov. Winter stays in Finland lasting for 100 days in southwestern Finland and 200 days in Lapland.
- 3) Part of winter time north of arctic circle is known as polar night where sun does not rise at all above the horizon.
- 4) In the northernmost corner/region the polar night lasts/exists for 51 days.
- 5) Again, in southern zone, the shortest day is about 6hrs long.
- 6) Usually, 2-3 weeks are required for proper permanent snow covering of the ground/land after starting of winter.
- 7) The snow cover is deepest during March with an average of 60-90cm layer of snow in eastern and northern zone and 20-30 cm layer in southern region of Finland.
- 8) Most lakes go on freeze during late Nov. to early Dec. in each year.
- 9) The thickest ice can be observed in late March to early April covering layer of 50-65 cm thick.
- 10) The coldest day can be observed in January and islands and coastal zone at early Feb.
- 11) April is very bad days for melting snow water removal and/or reforming as frozen like stones.
- 12) During severe winter Baltic sea may ice over or complete frozen but with mild winter it remains open except ends of Gulf of Bothonia and Gulf of Finland.
- 13) In Finland, the coldest temperature varies from -45°C to -50°C in Lapland and eastern Finland and on other parts -35°C to -45°C and -25°C to -35°C on islands and coastal zones.
- 14) Some report/records showed lowest temp at the capital city Helsinki was -34.3°C in 1987 and lowest recorded in Finland was -51.5°C in 2010 from weather station report.
- 15) Usually, it was observed that if sunny day in winter then more cold comes at night.
- 16) The stright fumes coming from open chimney of central heating system confirms the rise of coldness at day and/or night.
- 17) After snowfall or even during of snowfall the snow layer quickly removed at most places and at urban places tons of snow are then removed by trucks to the outside of the city centre where somewhere such snow storage/deposition looks like hills with.

- 18) In winter, most of trees stand without leaves where they enjoy snow-covering wonderful white colour-looks like plants with white coloured leaves. Such scene in winter at the Finnish environment is very much popular, and children play through moving one plant to another by breaking such typical snow bearing minor plants or bushes.
- 19) Snow bleeze is the terrible problems for Finnish people and faces sometimes in winter.
- 20) Cross country skiing, downhill ski, ice hockey, ice games etc. are very enjoyable to Finnish people.
- 21) During snow melting time there sand are can help for easy movement of people.

II. Spring in Finland

- 1) Spring runs March, April and May but normally observable in April but in Lapland it works in May i.e. spring starts earlier in south than in north.
- 2) The duration covers 45-65 days and longest in maritime islands and coastal regions due to coolness of sea.
- 3) The means daily temperature ranges in spring from 0° to 10°C.
- 4) During spring snow must melt where complete melting require time on the basis of amount including addition of sand on snow materials.
- 5) Snow from open space disappear or melts within 2-3 weeks and move to lakes, and rivers.
- 6) Snow melting in the forest zone require more time usually 2 weeks more than those of other parts/zones.
- 7) The lakes become ice-free zone after the spring season begins in April in south western of Finland.
- 8) During spring time particularly in April people are not allowed to move in lakes or river-body because then sudden high melting creates a risky condition and even creates death of some people.
- 9) In Lapland lakes and rivers become ice-free in May to June in each year.
- 10) Spring is the wonderful time for forest regions then leaves appear to most plants creating smooth green and peaceful environment.
- 11) One thing is very interesting in spring after disappear of snow from the ground/land there come some flowering plants with flowers at the tops thats the typical natural condition/environment in Finland.
- 12) May time is very neat and clean.

III. Summer in Finland

- 1) The summer temperature varies from 10 to 20°C with maximum of 35°C.
- 2) Near sea and over the maritime islands, temperature varies 25 to 30°C.
- 3) One record showed that maximum temperature recorded from Joensuu in 2010 (July 29th) was 37.2°C.
- 4) Usual summer temperature of 20 to 25°C may exist for 5-10 days in the northern Finland.
- 5) Thunderstorms may also occur 1-2 weeks or more during summer time and minimum like 5-8/10 days in the coastal or northern lapland.
- 6) During summer most families visit to sea shore or lake side for swimming and enjoying sunshine with children.
- 7) Sound green and peaceful environment exists all through the country.
- 8) Summer is enjoyable for flowering plants to most families home or apartment or resident-garden and garden of the office, parks, farmland and other places-with lots of wonderful and colourful flowers.
- 9) Summer begins in late May in southern past and late June in northern part/lapland and exists mid-sept.
- 10) The region north of artic circle are known for its “Polar days” when sun does not set at all. The another most part enjoys 73 such polar days during a year.
- 11) The longest day comes as Mid-summer (June 24th) covers 19 hours sunshine and then no dark at all.

- 12) The warmest day and time considered during July ice mid summer to mid-July.
- 13) During summer particularly July-August 90-95% of the Finnish people go on leave and enjoys the summer holidays home and abroad.
- 14) 60-70% people pass the summer days in the summer coltege-boat sailing, fishing, peaceful life near water bodies.
- 15) City municipality add plot of land for summer farming where hundreds of people of the residential area go on such farming (ranted land for summer farming only) where they grow different vegetables and flowers and the days smoothly passes with children for getting fresh food, vegetables and flowers.
- 16) People of residential area enjoy the sunny days and even upto nights by preparing chicken grills of beef, fishes and potatoes including drinks like alcohol-a popular drink for Finnish people.
- 17) Due to long summer days-the quick growth of crops and vegetables can be seen in the market.
- 18) As Finland has no food crisis, so they grow only summer crops in summer time where they produce minor amount i.e. upto requirement.
- 19) During summer, farmers also produce grass/hay for cows and that's why one of the names of Finnish calender include July as Hinaku (means mouth of grass).
- 20) In Finland, all educational institutions are closed during summer days as summer holiday (Kesa-loma) where most university students go for summer jobs and earn good money so that they can continue smooth education during the year.
- 21) Millions of tourists visit Finland particularly Artic circle and more north like Ivalo (last northern airport of Finland) to enjoy and/to celebrate the long summer days (mid-night sun).
- 22) It is interesting that different crops, vegetables, flowering plants (wild and cultivated) grasses, wild fruits etc. nicely complete the life cycle during Finnish short summer days.
- 23) At Ivalo there is museum in nature covering 50-80 houses of original.
- 24) Exkimo showing their survival during snow covering of that region.
- 25) In summer, there is great festival covering Jyvaskyla, Finlandia or other marathion where Finnish people and hundreds of people from other countries participate.

IV. Autumn in Finland

- 1) The mean temperature remains in autumn below 10°C like 5 - 10°C.
- 2) Normally autumn starts form late August in northern part and Sept in the southern part.
- 3) The real autumn starts at the end of Sept. in northern and Oct. in southern part.
- 4) Usually, the crop growing season 170-180 days in the south western part and 140-160 days in southern and central Finland.
- 5) The crop growing season in Lapland varies from 100 to 145/150 days.
- 6) Autumn must enjoy first snow in every year northern in Sept. and other zones October.
- 7) It is the final (late) proper harvesting time of crops, grasses from the fields.
- 8) Sept. in the wonderful time in Finland to observe and the enjoy the various colours (colourful) nature of Finland.
- 9) The colours on leaves start at late August and in Sept. they pear strong pink/red looks like fire in the forest.
- 10) Autumn is very much popular for Finnish people and at that time most of the families go to forest for the collection of various mushroom, covering one, two and or three stars (3-stars means mushroom are 100% safe, 2-stars means needs boiling and removal of water, 1-star mean strong boiling and removal of water before eating).
- 11) There is marking stars and poisonous markings for mushrooms, so people never take those poinonous ones but still every year some people may die through eating of mushrooms.
- 12) People collect grasses/hays for cattle and safe properly for the winter.
- 13) Then forest are full dry leaves and after decomposition they add organic matter to the soils.

11. Evaluation and Observation of Finnish Environment

- 1) Roads are smooth, plain and no holes, damages or no road degradations.
- 2) Road carpetings survives more than 50 years.
- 3) Both sides of roads are well carpeted and no empty/free land/soil spaces are visible where dusts may come out to create problems to main roads.
- 4) Usually no fumes/smoke come out from vehicles.
- 5) All vehicles use separate summer and winter tyres.
- 6) Roads and total city environments are very neat and clean and no dusts are visible in air.
- 7) Road sides cover walking road/foot path and road for bicycle and motor bikes.
- 8) Never produce dusts in air. In the road sides even in the countryside there are dustbins and people use them properly. They are replaced every day.
- 9) Each and every shop in the city maintains 3-4 dustbins (for paper, plastics, glasses, decomposable wastes etc. separately) for proper recycling and strong safety management of the things.
- 10) Drainage system is underground and no problem or disaster of waste management.
- 11) Wind or rain never create problems of dust or soil erosion.
- 12) Music shops are well protected against the producing of sound more than normal or optimum.
- 13) None never throw any wastes, papers, skin of fruits, ice-cream packet, plastic bags, banana skin etc. on roads, road sides, open ground, grass field not even in the forest.
- 14) Vehicle never produce any strong sound on road, residential/hospital sides i.e. strictly restricted except typical situations.
- 15) No sound can be observed from the constructions sides of buildings/industries.
- 16) Centrally on the basis of frame work the structures are developed in the factory and just carry and fix accordingly i.e. within 6 months they develop 8-10 stairs buildings.
- 17) In any circumstances, people never throw cough on the roads, shops or vehicles.
- 18) There should be no old vehicles in the city and not more than 10-years of use.
- 19) The country enjoys 70% forest plants, and these strongly protect the natural environment.
- 20) No problems of Malaria, Kalajar or dengue-so houses are free from mosquitoes although forests are quick rich with mosquitoes and people can move inside in forest by using of anti-mosquitoes oil. People never require using of pesticides/mosquitoes-killing chemicals for creating hazards/air pollution to the houses/rooms.
- 21) There is always green grasses in the field during summer and autumn and snow covers during winter. So, air is fresh and no question of dust contamination.
- 22) Every industry maintains its own environmental management cell with related experts so there is no minor or less industrial pollution, hazards or disasters.
- 23) Using of pesticides in crop fields is common where farmers use widely used pesticides with known residues below standard and such chemicals are safe and sound with minor or minimum hazards to health.
- 24) Finnish are rich to study on routine residual work in all crops, vegetables, foods, soils and never recommend any hazardous problematic chemicals.
- 25) All food items and medicines have labels with expire dates and they never keep those expire date materials in the shops. Practically, they follow strongly the expire date.
- 26) Food shops/markets are free from pollution where they strongly maintain the quality of the items.
- 27) People drink milk, mineral water, juice, bear, alcohol etc with food and rarely drink water. So they rarely think on water quality but check/maintain the quality of fishes-any contaminations or not.
- 28) In Finland, outside temp. during summer varies from 10-20°C and in winter -5° to -30°C, so they enjoy fresh air at the outside i.e. health hazards related to air pollution is rare in Finland.
- 29) Most people grow ornamental plants in winter and flowing plants during summer where their soils, and chemicals are safe enough against problems/health hazards.
- 30) People never cut plants/trees from forest even from own garden because where they require long govt. formalities.

- 31) In case of any problematic/hazardous issues come in front, they quickly publish the matters as awareness message to the daily newspaper that goes to every family free of cost i.e. people can easily face the situations without hesitation.
- 32) There are necessary public toilets in the city, so people never use road-side area or other areas for rough toilet purposes.
- 33) School, college or other institutional campuses are mostly cleaned by the students, so safe and sound campuses are visible throughout the year.
- 34) During summertime most city authority distributed plots to the people of those residential area where they grow numerous summer vegetables and flowers making a sound environment of the locality.
- 35) Although there are huge forest with dry leaves of 1-2ft' above the ground but none never go no firing, although here huge production of organic matter for proper growth and development of sound forest plants.
- 36) Those passing days in the summer cottage, may cut plants from own housing land for saving lives against cold winter protection where people strongly minimizes the fumes.
- 37) Finnish govt. has strong law for saving the forest and people follow and respect the law as best citizen of the nation and none move against the law.
- 38) As there are more than 70% forest, so herbicides are widely sprayed by plane on the forests for better growth and maintaining of quality wood products particularly for killing of bushes. During summer the action is quick producing residues or metabolites to soils, even move to the lakes or water bodies. But during winter the action is slow because of snow coverage on the land where mother compound like MCPA (a popular herbicide for cold country like Finland) survives during the winter time, and during spring to summer days snow melts them MCPA with its metabolites moves with water bodies and polluted the lake water, finally fishes and birds. MCPA is not much toxic or hazardous but the 2 metabolite compounds like 4-cl-o-cresol and 5-chloro-3-metllyt catechol are severely toxic and hazardous.

12. Evaluation and observation of food safety situations in Finland

Food safety situations of Finland is outlined here, and they are developed from my 9 years experiences (1976-84) on field and not from the books or regulation guidelines:

- 1) 100% people honour and respect the human rights.
- 2) The people respect the law as a law and never go beyond that or those.
- 3) The country became independent in 1918, and during 1st world-war they are helpless and hopeless nation for struggles of existence.
- 4) Every people respect the life of other as his or her own life.
- 5) Food safety is not a question rather a universal concept for all rich or poor; young, adult or old.
- 6) They feel proud as their life length reaches to nearly hundred years, where 80-90 ears of age is normal strength of 90% people.
- 7) The basic concept of food is universal i.e. food for all like food for me, you and others. The food is not good for me never be treated as food for others.
- 8) When there is food-it should be treated as 100% safe for all-a basic universal concept; 100% utilizes by Finnish people.
- 9) Foods, fruits, vegetables and other food related items are 100% free from pollution and contaminations.
- 10) Date of expire is strictly followed and none never do any benefit against it.
- 11) Practically, food quality is well maintained and preserved.
- 12) Food from small or large shops, farmers field or market-it is all the same-no question of contamination or hazardous action or health hazards.
- 13) No hazardous preservations are used against any foods, drinks, vegetables or fruits.
- 14) Pesticides using in agriculture have residue standard limit against each pesticide to each crop, vegetable or work to all available pesticides. If the residues go against the standard then

immediately they banned that/those compounds. So pesticide related problems/toxicity or health hazards are not visible in the country. Even they have harmonization of lab. Data for easy solving the problems.

- 15) Heavy metals coming from food, crops vegetables and water are strictly controlled by routine analytical work and have annual data against in each heavy metal to each crop. So, in case of against the standard-they quickly deal with the program and solve properly.
- 16) All field crops, vegetables and salad crops are 100% safe against high residues of hazardous pesticides (insecticides, herbicides, fungicides etc.).
- 17) Food quality and food values are properly maintained so no question of health hazards related to foods.

13. Evaluation and observation of agriculture and crop production in the cold country Finland

Finland is located between the 60th and 70th parallels of latitude, making it the northernmost country with viable agriculture in Europe. From south to north Finland is more than 1,000 km long, which means the conditions vary a great deal in the different parts of the country, which can present challenges and opportunities for the Finnish farm sector.

Finland is characterized by cold winters with a lot of snow and short summers with daylight in abundance. In southern Finland, the growing season is only 180 days long, which is around two months shorter than in Central Europe. The average effective temperature sum is 1450°C in southern Finland and 880°C in the north. The annual precipitation is 550-650mm.

Of the surface area, 70% is covered by forest and 10% is lakes. About 8% of the total surface area is agricultural land.

The vast majority of farms are owned by families, most of them engaged in both farming and farm forestry. An average Finnish farm has 47 ha arable land.

Agricultural production is practiced on about 2.3 million hectares, and the main crops are cereals and grasses. The yield level varies a great in the different parts of the country. Most of the cereals are spring sown, with barley, oats and wheat as the most important spring sown species. Rye and also wheat are cultivated as winter cereals.

The grass area is about 0.7 million hectares, of which over 2/3 is under silage, the rest is dry hay, pasture or under other production. The main grasses are timothy and meadow fescue. The most important forage is red clover.

Most of the cereal and grass crop is used as fodder for milk and meat production (cattle, pigs and poultry). Cereals are also produced for food processing, i.e. bread cereals, malting barley and oats for food use, and organic cereal crops are cultivated on approximately five per cent of the cereal crop cultivation area.

Important minor crops include oilseed crops (turnip rape, oilseed rape), potatoes, vegetables, caraway, flax, buckwheat, sugar beet and protein crops such as faba bean and pea.

The production of cereal crops is sufficient to cover domestic consumption and some grain is also exported. Finland is one of the world's largest producers and exporters of oats.

Spring field work and sowings in Finland generally begin in May, with harvest generally beginning at the start of August and continuing until September. Growing conditions are beneficial to production, because the cold winter reduces the number of plant diseases and pests. But due to the climatic condition, the crops need to be dried after harvest, practically without exception. In Finland, special attention is paid to preventing common wild oats (*Avena fatua*).

The annual seed production area is about 36,000 ha. The most significant seed plants are spring cereals and grasses. Seed is produced in all parts of country, except for the very north. Each year about 70 million kg of seed as well as 22 million kg of seed potato is certified.

(Source: Online sources)