The study of Lullabies in Folk Literature of Jahrom

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Abstract

The Persian poetry has had the brilliant background but any Persian poets related to the past literary of Iran did not specially allocated to write about children's literature and there are not any works about this subject. Iranian lullabies are parts of folk and inedible and old songs of Iran that originate in the far past. The first poetic and musical poetry is done between mother and child that embeds different spectrums of maternal wishes, woes and praises and is inherited chest to chest from past generations to today's generation. Lullabies express mothers' wishes and religious identity of people as well as social and economic concerns, the structures of the family such as emotional relationships and polygamy. Lullabies that are cited by mothers of Jahrom, consist of thousand hidden topics to which unconscious mind of the child accustomed and grows. Such lullabies whether son and whether contents are considered the most mellifluous and most beautiful songs of Persian language and State South Zones which are familiar to some of them. As any evident and written sources in the area of lullabies of Jahrom have not been written, yet, so that the method of author is based on free and presence manner and interviewing old people.

Keywords: Children's Literature, Lullabies, Jahrom, Free and Presence.
Introduction:

Lullabies are the most primary shape of literature. (Ghazal Ayagh, 127:2007). In Dehkhoda dictionary, the meaning of lullaby is: "salve, servant, maid, menial, eunuch, instructor against nurse, old man who is instructor and guard of gentles. A maid who cared children and taught the beginnings of wisdom and brought them to the school in special age and returned them to home among Greece and Rom…. Sleeping in children's language. (Dehkhoda 1955/13: 1998). The following of lullaby word is states: "the song by which mothers and nurses put to sleep children. Lullaby is special song which is cited. Soft songs of mothers and nurses which are used to put to sleep. (The same, 1955/13:)

Lullabies are flown in folk literature in one side, and the other side are qualified to be investigated in children's literature scope: they are originated from the heart of folk culture and raised from the emotions of the people and are related to folk literature and since they are created for children, are connected to children's literature.

Lullabies are the first poetic and musical agreements which are concluded between mothers and children. They are invisible chain that moves from the lips of the mothers to the ears of children and its magic effects are calm and deep sleep that involves children. It is string which bears honesty and endless obsession wishes and goals of the mothers and continuous movement of the cradle is the indication of the balance and repetition and these wishes are simply expressed that the mind of audience remains wander and indecisive whether the song id real or wish.

The mother complains the world's oppression and joys stroke association while fondling and resembling the child to the most beautiful symbol of nature and life. The mother attributes all goodness to her child and wants all goodness for him. The mild music of the song and the mild of the movement of the cradle are always remained in the mind the sad mood of a woman beside the cradle tries to put sleep her child. (Omrani 31, 2002)

Lullabies are divided into two classes: such lullabies which were created by people and expressed their pain and sadness, in fact they are to inform people not to put to sleep children (political and religious lullabies) and lullabies that are simple and alive and famous poets cite for children like lullabies of Mostafa Rahmandoost, Jafar Ebrahimi and Afsaneh Shabannezhad (Hejazi, 150: 2004)

Considering not only, comprehensive and complete investigations have not been done about lullabies of Jahrom, yet, but also, the least and least valuable investigations have not been done. Doing this research seems essential to be familiar with cultural, economic and religious identities of mothers and women of Jahrom by analyzing lullabies. Since lullabies are received to us chest to chest and mouth to mouth from past to today, it is considered kind of womanly literature. Before investigating about the background of lullabies of this city, it is worthy to express about information of geographical situation of the city.

Jahrom- the city of proud-hearted palm and blushing plain- one of the most cities of Fars Province which is situated in 180 kilometers of southeast of Shiraz, Iran in high mountain in the name of Alborz. The name of Jarom has been mentioned for several times in Shahnahem there is the name of Jahrom in Alexander's attack and the most detailed stories of Ardashir Babakan and wars of Ardavan, the last king of Parthia and finally in Bahram Gur's stories and Khosrow Parviz's narrations and Barbob, the famous musician of Jahrom as well as Farokhzad kingdom from the last king of Sassanid (Toofan, 6: 2002). Jahrom has been small city due to loss of running water and just in Safavid era, explorers mentioned the name of the city due to situating in Isfahan-Bandar Abbas (the road of that time). Gradually, Jahrom has been changed to agricultural city by planting palm and today, is the most important centers of producing palm and citrus.

The women of Jahrom inherit endurance and patience from high palms, reflect their sadness and staying away from the sweetheart, expressing gloomily, recourse to 14 innocent people, who in fact calm down
themselves, expressing problems and hardships, expressing all kinds of flowers, saying praying for their children, wishing healthy for children and their relatives in their lullabies

Results and Discussion:

Lullabies have hidden function, in addition to visual function that it is tried to investigate this part. The results of the content show that the lullabies have had visual function (putting to sleep and cultivating children) as well as hidden functions which are mentioned, here:

Expressing Love:
One of the main themes that is observed in lullabies is love.
Expressing love to the Spouse:
One of raised theme in lullabies which either mentions to stay away spouses to each other or dominated culture in the society as headman male, is non-explicit expression of live from women. Women of Jahrom believe that their husband are gods on the earth and love their husband with all their spirts. Although either the explicit or hidden expression of love is not norm, and modesty and shame prevent them to express their love to their husband and is considered type of unconventional so that is expressed in hidden way. But due to lullabies are cited loudly or in the presence of husband or even in the presence of beloved or others, an opportunity was given to women to indirectly express their loves to their husbands or beloveds. Pay attention to following lullaby:
Lullaby sweetheart, lullaby
I sit down the corner until you come
Of course, the expression of staying away of souses in this article does not state that they don't love each other, rather expresses the distance created by the society between them. In addition to, love of wife towards her husband can be observed in lovely lullabies, it is also expressed in saying prayer of the wife for her husband, as well. It should be mentioned that citrus gardens and palms are so important for this city due to loss of gravel road and not having comfortable vehicles in one side and the special geographical situation of gardening as the main economic base. (Sedaghat Kish, P 146, 2010). Even when men go to round garden and rural, preferred to stay there some days and then came back home, so that often women waited for their husband, it seemed that the main aim of narrator (mother) is to talk about the father (the event in the past) and now this event is the main theme of her words. The father has been placed in depth of the narrator's mind that now is appeared (Jalali Pendari & Pakzamir, P 11, 2011). Pay attention to following lullaby and prayer of woman for her husband or expressing her happiness for his return to home:
I lullaby you and you are sleepy
I hope God to return your dad
Lulaaaaaaaaaaa lullaby
when do you come back my sweetheart
Sometimes men such as young and old men went to gardens, situated in rural and river on Alborz mountain in the weekend. Also, bowers (is called shed in Jahrom culture and established by leaves of palm and the building of raisins garden were called raisins home) that the existence gardens were good shelters for men. (R.K. Toofan, P 121, 2002).
Mom lala walnut flower
you father went to camp
It should be mentioned that the women of Jahrom were obliged to cover all their hands, faces and bodies under veils and only one eye of them was determined and even when buying and taking something from alien man, covered their hands. So that they deprived a little entertainment and freedom and only in
Nowroz days and 13th day of Nowroz went to gardens in rural accompanying some families by observing Islamic rules. (R.K. Toofan, P 121, 2002).

I lullaby you at noon and night
lullaby you up to Nowroz

Expressing love to children:
One of the most main lullabies is to love to children that were expressed in everywhere of lullaby in different models. Mother is the heart of home, the symbol of love, affection, love and peace and motherhood is virtue of heavenly caused of sacred realm reincarnates to the soul of human beings in which are revealed frankness, love and peace, justice and piety with the best model. Motherhood is a mood that knows excellent and beautiful features existing in cultivation of children and sacrifices in all personal areas and facilities. Resembling child to types of flowers, praising, wishes and prayers for her child, all express her love.

Lala my flower lala
sleep my new flower, lala
Lala my sweetheart kindness
lala my mealy-mouthed child

Mother loves her child, even though her child is ugly, she sees him beautiful and symbol of Goddess of Beauty. The language of the mother or expressing her child is imagine and metaphoric. She draws for her child beautiful and hooded eyes and arched eyebrows.

Lala hey, my bangle hand
lala my hooded eyes
It should be mentioned that in Jahrom culture, bangle is called wristband.

Lalala my colored flower
lalala my arched eyebrow
Lala my beautiful child
Lala his mother is so eager to see his child

It can be found out in investigating lullaby that a mother knows his child as a soft flower and usually resembles him to the flowers which are grown near her neighbor due to being evident them to her. For instance, in Jahrom and region being around this city, plants such as mint, pennyroyal, thyme, tulip and puppy are naturally grown in spring. Terebinth and peanuts and herbal plants like borage, veneris, thyme, sagebrush, and marshmallow are grown in different regions of Jahrom as well as there are plenty vegetation in this zone. (Sadghat Kish, P 146, 2010).

While investigating flowers, we find out that a mother not only resembles her child as a beautiful and colored flower, but also, she resembles her child to herbal plants in accordance with time. Herbal plants were only used for treatment of various diseases of human in the past and there were not any today chemical medicine, so that those days, most dame women of Jahrom had bundle in their house that there were types of herbal plants such as fennel (its leaves are aromatic and pleasant and somehow sweet used for removing cool temper), pennyroyal (the plant is evergreen used for indigestion), thyme (two classification: wide and narrow) which is used for different diseases. There are herbal plants bundles in some grandmothers' houses. (the same, P 78, 2010).

Lalala Oregano flowers, lalala mint flower, lalala wheat flower, lalala cumin flower, lalala thyme flower, lalala my yellow flower, lalala jujube flower, lalala pistachio flower, lalala amaryllis, lalala tulip, lalala ilium, lalala field poppy, lalala fennel flower.

The fact of mother's life is to love and sacrifice. Sometimes, mother says prayer to vanish malignant of her child.
Lalala my sweetheart
my mealy-mouthed child is sleeping
Your enemy dies and you live
you are immortal to God
A mother based on her motherhood and her kindness enjoys her child's life every moment. Since her child
is born and sleeps very well in his cradle until the mother take his hands and walk step by step with him.
Lalala mommy
your father and me sacrifice for you
mommy
Thank you, God, my sweetheart walks
my sweetheart walks like the flowers in the garden.
Mother's love is flown to vessels' mother while bearing a child until she rests in the grave.
I lullaby you my new flower
you carry my coffin
When putting me in the grave
close my grave with your hands

Expressing Wishes And Desires:

It seems direct expression of wishes on behalf of modesty and chaste women of Jahrom has not
been common like expressing their loves in religious and fanatic environment; so that in addition
to indirectly expressing love, indirect expression of wishes and desires in frame of lullaby is
feminine strategy and policy. These wishes and desires include wishes and desires for herself as
well as her child. For instance, a mother expresses her wishes to go the holy travel in frame of
lullaby:

My soul is sacrific
ed for you, Amiralmomenin
I sweep your shrine and my child is you slave
Hey, Amiralmomenin cure my pain
my destination is to go to Karbala
I swear you the green dome of Mohammad
my child has wish, please answer him

As mothers want wishes and desires such as unattainable dreams and attainable dream for their children,
so that we can find out their wishes among their wishes for their children.

Lalala my sweetheart I pour gold through his body
Come to go to smooth road my sweetheart never gets sick

Nanni: is cradle of the child knitted by leather or cloth. (Farzinnia, P 398, 2011). Cradles which
are used for putting to sleep children in south and central zones of the country are called Nanno
originating in the word of Nane (mother). Because the cradle is known as the second mother of
the child. Nanno is linked to somewhere (song and songwriter in Iran, P 186). Two large pins are
connected in two parallel angles and the cradle made in hard leather or cloth is connected to them.
The extent of the cradle is so large, i.e. it swings from one side to another side of the room by a
movement of the hand. (Mokhtari Bab Anari, P 544, 2001).

Expressing Objection:

One of the other functions of lullaby is to object the woman from the existence condition. As the
songwriter of lullabies are women, can be found out the themes of lullabies to the depth of
objection and thought by thinking. In fact, lullabies are the mind concerns of the mother that are
appeared. The mother may express her desolation to her child as an honest person. A child is only her sweetheart and confidant. Women who have loss of social power in the society and cannot object in closed space dominating in the society, so that they have to express their pain by lullabies instead of shouting.

1-3 One of this evidence of this claim is to concern women about remarriage of their husband. The concern and worry are always accompanied women. It is obvious the fear and concern among women of Jahrom is based on the occupation of their husband which always work in agricultural lands and they always need manpower for helping in farming and harvesting palms, they witness remarry their husbands to have more children and in fact manpower for agriculture, even there are the fear and insecurity to keep family. Attention of completely passive objection reaction of them, i.e. sorrow and waste are well obvious. Women of Jahrom that cannot shout their objections, find out the best place for expressing their fear and pain, beside their children.

Lalala cumin flower
my child is under basket
His father wants to remarry
her mother dies for this pain
Basket: knitted basket by pomegranate wands for carrying fruits and like that. (Farzinnia, 345, 2011).

2-3 The other sample of objection is the time when a child cries and is impatience and causes his mother cannot sleep enough and the mother is not satisfied with him that there are curse and wrath in mother's lullaby; but besides these sadness and woes, mothers kindly and smoothly whisper lullabies to their children. Maybe at the moment, the mind of the mother gets disable in employing words. But, continuously the mother kindly and compassionately provides peace for her child.

Lalalala tulip lalaei
my sweetheart does not sleep
Divine, divine and divine
the lord you are aware of my heart
Mommy, lalala hey my intoxicated partridge
I was awake from the night to dawn
I must be awake from the night to the dawn
all sleep and I think of you
Sometimes, the mother talks about animals and help them in her lullabies.
Lalala tulip lalalei
panther whimpers from alley lalalei
He does have neither cows nor calves instead of child in the cradle
The psychology of such lullabies is so interesting, because, sometimes, the mother employs ploy to teach animals to her child kindly.
Lalala thyme flower
the dog comes to anteroom
I booh him he gets sad
I give him bread, he gets happy

4- Psychological Adjustment & Discharge
The themes of lullabies show that the duties of women got doubled due to the special family structures and dividing generic works and non-presence of men in home and they had to carry to life burden and brought much hardship, so that whispering lullabies is opportunity to shout her lonely and not having intimates in their lives:
My God you are awareness and rightness  
the heart carries something in this world  
The lord, give me a power  
I pick hundred tons burden  
Sine, desolation, lonely and having no one are common themes of the lullabies of Jahrom, it seems this lonely and not having no one are not related to geographical distance of souses; rather it depends on the situation of women in society and family and emotional and mental distances, so that one of functions of lullaby for women is to mentally discharge. Using themes such as lonely, having no one and no sympathy show more stresses which women bear in society. Since, themes of lullabies more shape complains, wishes and planning for future of the children lead women to mentally discharge and effect to calm down. Psychologists believe talking and citing to relieve problems and hardship.  
Mommy, you are my flower  
always being companion  
Lullaby you my ignorant child  
cultivate you by my soul  
Cultivate you to live  
to remember me at winter night  
5-Attention To Sex  
Women pay attention to sex of children among lullabies and lullaby harmonizing their sex. The word "Rood" (sweetheart) is the most common word in Jahrom lullaby and is attributed to a child in local dialect and is not important to address boy or girl.  
Mommy, lalala my sweetheart  
Divine, I never observe my child's death  
Lalala my sweetheart  
lalala my soul  
In some lullabies, some words are stated that can be distinguished, for example, when using bondwoman in lullaby it refers to a girl while using slave, it refers to a boy.  
I lullaby you to live  
be bondwoman for Hazrat Massomeh  
I lullaby you to live  
be slave for Hazrat Masoomeh  
As the boy is a friend and assistant of his father and the father request help from his boy for affairs out of home, some lullabies refer to the boy:  
Lalala, the friend of the father  
Lalala, the supporter of the father  
As mentioned before due to non-continuous presence of men of Jahrom at home, it is natural that the mother and the child accustom each other more how the mother knows her child as her supporter:  
Lalala, be my flower  
lalala, be my supporter  
Such lullabies not only indicate deep relationship between the mother and the child, but also show the attitude of the mother about the child: the child is considered as helper and friend of the mother as well as the supporter for old time of the mother. And all show lonely of the mother and her concerns about the future. The mothers concern to get lost their children due to their marriage and being far away and being doubled lonely. No having certain future and concerning to get lost all her tries for her child (as the only friend and helper of the mother) are adopted out of themes that there are in lullabies how it intensifies according to long distance of the father and concerning about his remarriage and having feel of lonely. This matter can be observed following lullaby:
Lalala, you don’t want to sleep
I cultivate you and you can’t remember

6- Religious Cultivation Of The Child:
Some lullabies have religious background. In investigating lullabies, there are two methods for cultivation of the child: sometimes, it is showed by expressing love to 14 innocents, especially, Imam Ali and sometimes it is indicated in the frame of prayer. The mother requests Imam Ali to cure her pain in her lullaby, gives her to visit Karbala, and she says prayer about her child. Such lullabies are those which the mother is awake for her child that my lord, I swear you to Hazrat Mohammad to make come true my child’s wishes and she/he gets bondwoman/slave of Hazrat Masoomeh. These lullabies refer to some points: first, the existence texture of the society is religious. Second, the mothers or in other hand women have religious thoughts; third, religious cultivation is one of goals of the mothers. In done investigations, we find out the attitude of the mothers towards religious lives of their children allocate the main parts of lullabies of Jahrom. So that, religious lullabies are the other functions for the mothers to cultivating their children. Pay attention to following lullabies:
Sleep, lalala that your sleep is without pain
the God takes care you, night and day
Lalala, the God helps you
Imam Ali takes care you
One of wishes of the mothers is their children to read the holy Quran. The mothers request God that their children get old and can read the holy Quran. They wish that their children read the holy Quran for them after dying. The mother swears to love her child for ever up to being Mohammad’s Religion manner:
Mommy, Lalala, lalaei
Oh, my God my child gets old
he can read the holy Quran

7- EXPRESSING ECONOMIC PROBLEMS:
One of the other functions of lullabies is to refer the custom of this region. We can find out about economic situation of people of Jahrom by investigating lullabies. People of Jahrom were divided in regarding to economic situation:
First, reach group who eat the expensive food and have many facilities, their woman have many gold and aristocratic food.
Mommy, lala my everyday flower
the diamond of my ring
Lalala, earing
wake up soon, it is 8 o’clock
It should be mentioned that earing is long and heavy earing made by gold how the women of Jahrom fasten the earing by thread in order to prevent tearing the ears while wearing earing.

Even, in lullabies they spoke about the expensive and aristocratic food. The foods were hardly achieved.
Lalala, my shrimp sea
lalals, my walnut and raisins
It should be mentioned that due to the geographical situation of Jahrom and being far away from the sea, sea foods like fish and shrimp were so valuable and dame women of Jahrom cooked such foods for their dear guests. The manner of reserving fish and shrimp in the past is so interesting. As fish and shrimp were not available in the past, people who travelled to the ports brought a few fishes and shrimps and dame women put them in some salts and then dried them and sea food was provided for a year.
Lalala, plenty of fishes
gone to port, come back soon
Gone to the port to bring fishes
God takes care you and come back health
Of course, there is an attitude about the above-mentioned matter. Usually, reach people hired nurse for their children that nurses were poor and weak people of the society and they put their wishes to lullabies.
Second, the other groups had simple and pure lives. They hardly spent their lives and were satisfied with their lives. Usually their women worked alongside their men. Their lives were combined with domestic animals how they stated in their lullabies.
Lalalalei
lalalalei
Burning misery
otherwise I buy for my sweetheart
Hey, Imam Ali you are king of leaders
I, a poor person have a complaint and I say to you
I have no pelf, what shall I do?
But I want you to support me
8- MARRIAGE & WEDDING:
One of the other matters that can be seen is the wish of the mother for her child to marry. Marriage is eager and desire that is embedded to the nature of human. So that, the mothers want their children to grow up very soon and they get married. The mother wishes to see her son in groom clothes while coming back honey moon. And washed his hands based on old custom of Jahrom. It is worth to mention that the soap of Lar is so high grade and desirable and it had special famous due to neighboring to Jahrom.
Lalala nasreen flower
take your shoes off and come to my house
Take your shoes off and give me your hands as memento
Give me your hands to wash by Zamzam water and lar soap
Mommy, lalala I never your death
I request God to see your marriage
Lalala, my candle and light
lalala, all my dowry
Dowry of the bride was put into several treys and sent by some carriers. If the family of the bride was reach, the number of tray was more. And carriers took much sum of the groom and the groom had to pay for his honor. Dowry included carpet (carpet and felt), copper utensils of the kitchen, porcelain, various headlights, and one or more freezers (large covered boxes used for keeping clothes instead of today's dresser). The poor mother of bride must be careful that her daughter had everything. (Toofan, P 131, 2002).

9- EDUCATING AND SCHOOLING OF THE CHILD:
Education has been always valuable. There are lullabies consisting of the wishes of the mothers to grow up their children to go to school.
Lullaby you in old age
you grow up and help me
I cultivate you to go to school
you go to seven and eight grades
Aliakbar goes to school, lalaei
Aliasghar sleeps, lalaei
Koto: old school. The main word is Kottab. The appellation of school to Koto and in the past people tried to calligraphy and they knew calligraphy as half of knowledge. And in such school people like Mirali Tabrizi, Ahmad Neyrizi and Miremad were cultivated. (Farzinnia, 304, 2011)
Results and Discussions

As it is expressed above, the overall determined score of Mashhad is equal to 45, which is inappropriate weight score. But if we refer to the Arthur D. Little study regarding the mobility in the 84 world cities, it is observed that the most privileged score of 58.2 belonged to Hong Kong, and therefore, comparatively, the weight score of Mashhad is considered an ideal weight score. It is very acceptable in comparison to many other world cities. To know why smart cities in regard to mobility or other smart components have not evolved yet, we refer to the European Parliament Report:

“Almost 2/3 of the sample European smart cities are in the stage of planning and testing (Pilot Testing)…, most cities under the process of testing which focus upon the energy goals of the year 2020” (European Parliament, 2014).

Therefore, no city of the European cities has reached the final stage of implementation. So achieving low scores doesn’t seem too much unreasonable. But in other parts of the world, especially in countries which do not have not any planning and visions to create a smart city is not an easy task. Obtaining the low weight score is an indicator of the lack of planning and lack of correct understanding of the future situations and interrelations of the world and future cities.

Mashhad city has some specific situations. This city has had a plan from 2004 to become an electronic city which was arranged by Mashhad Municipality. But this plan was not implemented due to some reasons. However there are different plans and suggestions for Mashhad to become electronic and smart city. During the last 5 years, the municipality has done many activities for making Mashhad a smart city (DPDMM, 2014), and these activities continue. Relevant infrastructures also have been provided for this issue, such as ICT infrastructures like: increase of availability to internet, high-speed internet, Wi-Fi and so on.

In the field of smart mobility, applications are designed for the smart city of Mashhad. But the main problem in the municipality organization to implement the smart mobility is excessive and exclusive reliance just on the ICT experts. Unfortunately, the advices of humanities scholars and experts have not been given major role, and due to this reason the approach largely technical; social problems and needs took less attention.

After calculating the overall weight score based on Arthur D. Little mobility criteria (2014), for determining the current situation in smart mobility of Mashhad, the score should be compared with some other cities in order to be able to judge the current situation of Mashhad. For this reason, it was necessary to select the cities which have similarities with Mashhad and then do the comparison. Mashhad city has 3 million fixed population (Mashhad-statistics, 2014), which it is not a very exact foundation, because this city, because of pilgrimage and tourist characteristics, have 20 millions pilgrims and tourists yearly. On the other hand, about one million people live in sidelines of Mashhad and they use the welfare and official facilities of this city. These are the reasons why Mashhad has a floating population. Therefore, the cities which were selected for comparison with Mashhad have populations between 2.5 and up to 5.2 million people. Among the 84 cities studied by Arthur D. Little, 15 cities similar to Mashhad were selected. The results of the comparison are as follows:

As a whole, the weight score of Mashhad is in the fourth rank and after the three cities of Berlin, Madrid, and Singapore. It also has a weight score equal to Toronto. In the weight score of Mashhad metropolis, financial attractiveness of public transport and share of public transport in modal split (1st and 2nd criteria) is located in a suitable status and the smart cards’ penetration (7th criterion)
also high, because 3200000 smart cards related to transportation has been issued in this city (Transportation Statistics Book, 2014). But the Share of zero-emission modes in modal split (3rd criterion) is very low, because the citizens, in spite of the suitable number of bike sharing (8th criterion), limitation of cycle path network (5th criterion) and the high risk of bicycling due to the high numbers of traffic related fatalities (15th criterion) use bicycles and walk less in their daily trips. Thus we can’t be very hopeful about increasing the share of zero-emission modes (17th criterion) in Mashhad. Also, 15 percent improvement prediction for the next 10 years is very little progress.

The road density (4th criterion) is high. Thus, considering the high numbers of roads and pathways, the frequency of the most public used vehicle, namely buses (10th criterion) to reach the stations, is about 15 minutes in urban routes and sub-routes. That is an acceptable time. However, the density of vehicles registered (19th criterion) is high, and therefore passengers don’t wait much time to get on these transportation vehicles.

The other point which is related to the road density and their high traffic is the fact that there isn’t any car sharing system (9th criterion) available in Mashhad. Also there is no planning to implement this car sharing system because, on one hand, it increases the traffic, and requires new parking spaces of these cars which are a real problem in Mashhad. On the other hand, because of the lack of suitable parking places for personal cars, motorcycles, and bicycles in Mashhad metropolis, especially in the central core of this city, traffic jam is always in the increase. This would produce more transportation disorder and weather pollution.

The mean travel time to work (18th criterion) has been calculated 40 minutes for Mashhad. Compared to the Worst Value, that is 62.1 minutes and the Best Value that is 18.4 minutes, it isn’t a favorable time. But taking the traffic difficulties in account, such time is considered acceptable.

Concerning weather pollutants caused by the traffic namely CO2, NO2, and PM10; the results yielded are as following:

The amount of transport-related CO2 emissions (12th criterion) for each citizen is 1950 kilograms yearly, namely about 2 tons every year which it is a very grievous number. The worst value in the Arthur D. Little study (2014) was recorded equal to 7390 kilograms, however it is related to the few numbers of cities (maybe one or two cities) and it can’t be a generality. But given the difficulty of controlling CO2 emissions globally, the gained weight score for Mashhad compared to other cities is on average amount. However, it remains an inappropriate the amount.

Authors believe that according to Province Main Office of Environmental Preservation reports, the amount of transport-related CO2 emissions in Mashhad is very high. It causes many environmental and health problems. Among the most important health problems, as a result of high mass of CO2, are heart, cordial, and nervous diseases, respiratory and lung problems and also various types of cancer (KRMOEAP, 2014).

Another criterion related to the weather pollutants due to the traffic is the NO2 concentration (13th criterion). The standard amount of NO2 is 21 mcg/m3; in Mashhad weather is measured about 24 mcg/m3. Compared to the worst and best values gained for the cities studied by Arthur D. Little (2014), Mashhad weight score is acceptable.
According to Lahsaizade (2014), NO2 results into irritating of lungs. Short-time contact with the NO2 pollutant causes coughing and functional disorder of lungs and long-time contact with NO2 increases the likelihood to suffer from respiratory infections and leads to structural changes in lungs. Nitrate and NO2 ingredients also result in disordering of sight, and nitrogen sedimentation leads to acidity of ground, lagoon and marine systems (Lahsaizade, 2014). The current nitrate in atmosphere in the form of acidity products emits ingredients that sediment as acidity rain, fog, snow, or other ingredients.

The last studied pollutant is the PM10 concentration (14th criterion). The suspended ingredients are little than 10 micron which can be produced from the ignition of cars’ fuel, industrial and power plant processes, wood fireplaces, Shumen, agronomical and forestry activities, routes dusts, and conflagrations, and jungles(Lahsaizade, 2014).

The yearly reported average for these pollutants in Mashhad is equal to 73 mcg/m3, which its normal amount is 20 mcg/m3 (KRMOEP, 2014). It can be concluded that the density of these ingredients in Mashhad is very high.

Suspended ingredients affect the respiratory and immune systems of body and intensify the respiratory, heart and cordial illnesses. The size of these ingredients is the main reason of lowering the sight ability and they have damaging effects on herbage ecosystems (KRMOEP, 2014; Lahsaizade, 2014).
Conclusions

Acknowledgement and disclaimer

Many resources used in this article were in English but they were translated into Persian by researchers during the last year to be used in this article. Sometimes, due to non-availability of the main text, they were translated from Persian to English again, and because of this, it is likely that they have word differences with their main text. But we have regarded trusteeship and authors’ names are cited completely in all places.

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