Ethical Sustainability in Scene Design of Iranian Children TV Shows

Bushra Abbasi[1] & Mojtaba Ansari[1]

[1] Faculty of Art and Architecture, Tarbiat Modares University, Tehran, Iran

Correspondence: Mojtaba Ansari, Faculty of Art and Architecture, Tarbiat Modares University, Iran. E-mail: x_abbasi@yahoo.com; ansari_m@modares.ac.ir

Abstract

As the most efficient cognition source of children, TV programs can play an important role in fostering the priorities of Ethical Sustainability. Lack of attention in the field of scene design is addressing the absence of ethical sustainability requirements in the scene design principles. But, do the scene design principles in Iran have shortcomings? The aim of this paper is to define these shortcomings on the basis of ethical sustainability and present recommendations which can be considered by Iranian scene designers. The adopted methodology of research is case study, answering the research questions via qualitative data collection and descriptive-analytical technique. To achieve the aim of the research, the importance of ethical sustainability in the scene design of children TV shows is highlighted and the effect of design principles established by Islamic Republic of Iran Broadcasting Organization are reviewed through relevant literature and reliable documents. Then, through a comparison between Sustainable Principles of Hannover and the mentioned Iranian design principles on the basis of sustainable relations, shortcomings of principles are discovered. In addition, the selected case study of the research is the scene of "Fitileh TV show" which was successfully designed in accordance to the mentioned Iranian design principles. The current practice of established design principles are examined through direct observation and visual evaluation and presented in a clear view. The effects of the shortcomings of the afore-mentioned design principles on the designed scene are evaluated afterwards and the recommendations are presented.

Keywords: children TV Shows, Hannover principles, ethical sustainability, scene design, interior design, Iran

1. Introduction

Sustainability, as the major topic of the our century, has in its evolutionary development been mentioned through important international documents such as Brundtland Report (World Commission on Environment and Development 1987), the Rio Declaration (United Nations, 1992a), the Agenda 21 (United Nations, 1992b), and the Johannesburg Declaration (United Nations, 2002). Sustainable approaches chose ethical dimension to create a comprehensive image of all sustainable priorities on the basis of sustainable relations, addressed by Becker in his book of "Sustainability Ethics and Sustainability Research", as the relationship between humans and other contemporaries, the relationship between currently living humans and future generation and the relationship between humans and nature (Becker, 2012, p. 13). These relationships were shaped on the basis of Brundtland Report's description about sustainable development. The report indicates promoting harmony among human beings and between humanity and nature as the aim of sustainable development strategy (World Commission on Environment and Development, 1987, p. 81), and states that the humanity has the ability to make development sustainable and to ensure that it meets the needs of the present without compromising the ability of future generation to meet their own needs (Bennetts, 2003, p. 3). Even though ethical aspect of sustainability accessed its way through environmental ethics (Warner & DeCosse, 2009) and found its place in economic and social approaches by terms such as equality, social justice and global development, it was first mentioned through a holistic view towards sustainable development at 1996 in the 9th item of Hannover Principles which notes directly to "sustainable considerations" beside "ethical responsibility", including all of the mentioned sustainable relations. "Seek constant improvement by the sharing of knowledge. Encourage direct and open communication between colleagues, patrons, manufacturers and users to link long term sustainable considerations with ethical responsibility, and re-establish the integral relationship between natural processes and human activity" (McDonogh, 1992, p. 6), is the context of the last item of Hannover principles which are also known as the design principles of Expo 2000. As mentioned, all three sustainable relations including: the relationship between

human and other contemporaries, the relationship between human and future generation and the relationship between human and nature can be clearly noted in this context as the first established and internationally accepted principle which highlighted the ethical aspect of sustainability side by side of its environmental, social and economic priorities.

It is from this dimension that ethical approach of sustainability becomes as the most integrated aspect of sustainability. As shown in Figure 1, this aspect covers the priorities of all sustainable approaches and can therefore be the most efficient paragon of analysis for evaluating sustainability in recent design practices.
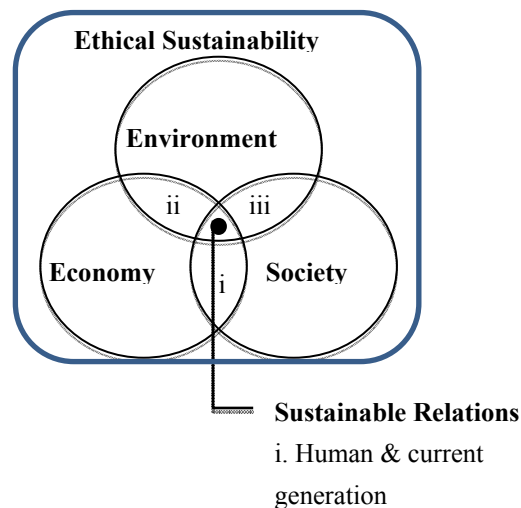

Figure1. Ethical sustainability as an integrated approach of sustainable development
Source: Hamzenazhad, Mahmoudi, and Abbasi (2014)

Best education for young children is the one which reveals itself in the form of entertainment and joy (Tominga 1995). In this sense, children TV shows, as one of the children's communicational tools with their surrounding environment and the rest of the world, can play an important role in teaching sustainability to Iranian young generation. Therefore, the design of scenes in these shows should be also treated as a teaching tool of sustainability. Budget of the show producer, aesthetical priorities, viewer's requirements and needs, the proficiency of the designer and cultural obligations, are all part of the factors which affect the quality and the sustainability of the scene design. Yet, the guiding design principles established by Islamic Republic of Iran Broadcasting organization can be called as the most effective factor in scene design of Iranian TV shows (Zahedi, 2014). The approach of this Organization in the last decade, and the control it has over the design of TV scenes in this developing country, makes it obvious that improving organizational design principles by sustainable considerations will lead to the sustainability of scene design.

In this study, the design principles of Islamic Republic of Iran Broadcasting organization (IRIB) are examined through an ethical approach to explore the current shortcomings in the principles of scene design for children TV shows. It is hoped that by fulfilling the defined shortcomings, gaining entertainment and education through a sustainable view point becomes a possibility for Iranian children.

1.1 Sustainability in Iran and Designer's Responsibility

A sustainable development is a development which is based on a commitment for creating better life for all people. In order to reach higher quality of life, much more attention should be paid towards immaterial properties, human interrelationship and environment, and this would not be achieved except by better acquirement of knowledge and promotion of culture (Khan Mohammadi, 2014) . The importance of reaching sustainability through an uprising development of the third world is an undeniable matter which has been accepted by Iranian designers and decision makers. As Lahsayeezadeh correctly stated in his book of *Sociology of Development*, Iran today is standing on the edge of cognition towards sustainable priorities, yet seems like this understanding is taking too much time to reveal itself in practice (Lahsayeezadeh, 2012). Academic environment of Iran has already taken its part in the field of sustainability, and design schools in particular, are strongly teaching sustainable approaches to Iranian students as the first step of creating sustainable built environment. Yet, recognizing these priorities in the physical practices of Iranian designers is a hard task. It seems like even though

cognition has been reached towards this important issue, there is still lack of consideration in presenting them as actual design projects.

This deficiency might be due to the fact that academic cognition does not necessarily lead to social acceptance, and it is only through social acceptance that the priorities of a development can be reached (Lynch & Hack, 1984). Since decision makers and organizations are also parts of this society, their approaches towards presenting sustainable considerations in practice can strongly affect the approach of the rest of the society towards sustainable development. Therefore, a two sided relationship is created, between the Iranian society and its decision makers, which is unknowingly forcing the whole community towards avoiding sustainable considerations while its academic sources are concentrating on its emanation. This is the point where educated designers, as the main creators of national viewpoints and the effective connecting chain of academic circles and the society, can solve this problem by breaking the above mentioned vain circulation and indirectly educate the priorities of sustainability through their design practices. This could be the most efficient way of rising national awareness towards sustainability and reaching sustainable development in Iran.

1.2 Necessity of Ethical Sustainability in Scene Design of Children TV Shows

Recognizing the necessity of gaining an integrated approach towards sustainability in architecture and design has lead Iranian sustainability theorist to accept spiritual value system, side by side of the material factors, as the moving engine of sustainability considerations (Hamzenazhad, Mahmoudi, & Abbasi, 2014). Yet, sustainable approaches are still considered separately in design projects which can obviously not end to a sustainable achievement. As the most comprehensive aspect of sustainable development, ethics has the ability to offer an integrated view point for sustainability analysis in different design projects which will lead to achieving sustainability priorities (Thompson, 1998). In this sense, the design projects which are related to children contain high importance. Since acceptance is only achieved through cognition, the best starting time of teaching sustainability is in the childhood years of a nation's young generation (Abbasi, Khan Mohammadi, & Mahmoudi, 2014). Even though scenes of children TV shows are not exactly known as the built environment which children spend their time in, yet, they are certainly the true image of an environment which children today use to connect with the rest of the world. The influence of children TV shows on shaping a child's priorities and value system is undeniable and its effect on child's behavior and viewpoint towards the world makes an effective teaching tool out of their scenes beside the context of their program.

Spaces related to children are the best beginning point of gaining social awareness towards sustainable consideration (Tominga, 1995), and children TV shows which are known to be the cognition gate of education and entertainment for children, are the exact space children connect with for a noticeable time of their days. It is from this point of view that the design of scenes in TV programs, become an important and effective factor in mental education, environmental cognition and psychological health of a child.

Child, in the early years of life, has a fresh, soft and supple character which could be shaped correctly (Della-Piana, 1973), but this chance faints as years pass. It is the designer's responsibility to create a space to meet all of the child's needs and requirements, yet most of the scenes designed for children TV shows have not paid enough attention to all of the existing aspects of a child and are not congruous with child's perception, activity model and mental health. These scenes have actually been designed in accordance to adults' perception of childhood and this could certainly not allow them to act as an indirect teaching tool of ethical sustainability or any other value system for children. In designing a scene, the designer creates an art piece using colors, shapes, lines and forms, and defines the idea and context of the design through these mentioned materialistic factors. Therefore, in order to transfer the educational massage of the show to the child, a comprehensive approach is needed. This is the only path in which the designer can consume all of the related factors as a whole with an integrated goal, which due to its nature, could be only obtained in the boundaries of an integrated framework (Dahl, 2012).

In the current era, indirect education of sustainability through sustainable design is known to be the most efficient tool of development and can prepare the society for facing future challenges (Curlwell, 2005). As the most comprehensive dimension of sustainable development, Ethical sustainability is able to offer the integrated framework needed for a comprehensive, ethical sustainable scene design and it is only through this holistic view point that the design of scenes can make them act as a teaching tool for children whom their today's education, will shape our world of future.

2. Methods and Materials

The best way to explore the shortcomings of Scene design principles set by Islamic Republic of Iran Broadcasting organization (IRIB) is through comparative examination of these principles and "Hannover

Principles" which are known to be the design principles of Expo.2000 and have strongly noted the ethical aspect of sustainability, through an integrated approach and on the basis of sustainable relations. Through comparison between Iranian design principles and globally accepted and known principles of Hannover, shortcomings of scene design in children TV shows are revealed. In order to conduct this comparative examination, case study approach is selected as the methodology. In addition, scene of the most famous and internationally recognized children TV show, under the name of Fitileh TV Show, is chosen as the case study of this research. Since the evaluation of this case study is a post occupancy research, observation is used as the most applied tool for post occupancy evaluation (Whyte, 1988; Biddulph, 2012; Marcus & Francis, 1998). So, the scene design of Fitileh TV Show is visited by the second author several times. In order to evaluate the scene design of Fitileh TV and collect data, several photos are taken and field notes are made during observation. The collected data and visual appraisal help to analyze the result of established design principles in practice.

The Fitile TV Show scene is selected as the case study because apart from being completely designed in accordance to the above mentioned Iranian design principles, it has been on the edge of success and popularity for nearly a decade and has managed to receive two national awards for education and entertainment from Islamic Republic of Iran Broadcasting organization and is one of the numerous TV shows which has been able to get promoted from national to international level and Iranian children outside the boarders of Iran can also enjoy this program. The other reason of this selection is that Fitileh TV Show is presented through an Iranian public channel and therefore, it's viewers are from the average level families of Iranian society which are mainly in need of gaining cognition towards sustainable priorities, and mostly efficient for the realization of these priorities in the society. The following sections demonstrate on this process.

2.1 Design Principle Approach

2.1.1 Sustainable Principles of Hannover

Hamover Principles are well known design principles which have been shaped in accordance to sustainable concerns during 20th century. As mentioned in the previous sections, these principles highlighted the relationship between material and spirit and can be known as the sustainability principles which focus on the value systems beside materialistic priorities. Hannover principles cover all three sustainable relations which have also been recognized in the Brundtland Report, as the most internationally accepted description of sustainability, through an integrated viewpoint of accepting the spiritual aspect of human beside their material needs. Ethics, as a value system in complete relate with spiritual and immaterial aspect of human beings, have also been mentioned in these principles. These principles include nine items:

1. Insist on rights of humanity and nature to co-exist in a healthy, supportive, diverse and sustainable condition.

2. Recognize interdependence. The elements of human design interact with and depend upon the natural world, with broad and diverse implications at every scale. Expand design considerations to recognizing even distant effects.

3. Respect relationships between spirit and matter. Consider all aspects of human settlement including community, dwelling, industry and trade in terms of existing and evolving connections between spiritual and material consciousness.

4. Accept responsibility for the consequences of design decisions upon human well-being, the viability of natural systems and their right to co-exist.

5. Create safe objects of long-term value. Do not burden future generations with requirements for maintenance or vigilant administration of potential danger due to the careless creation of products, processes or standards.

6. Eliminate the concept of waste. Evaluate and optimize the full life-cycle of products and processes, to approach the state of natural systems, in which there is no waste.

7. Rely on natural energy flows. Human designs should, like the living world, derive their creative forces from perpetual solar income. Incorporate this energy efficiently and safely for responsible use.

8. Understand the limitations of design. No human creation lasts forever and design does not solve all problems. Those who create and plan should practice humility in the face of nature. Treat nature as a model and mentor, not as an inconvenience to be evaded or controlled.

9. Seek constant improvement by the sharing of knowledge. Encourage direct and open communication between colleagues, patrons, manufacturers and users to link long term sustainable considerations with ethical responsibility, and re-establish the integral relationship between natural processes and human activity.

Even though all of the items are addressing to sustainable relations either directly, or indirectly, it is mostly in item no.9 where three relations are considered as a whole and ethics id noted directly as an immaterial aspect of sustainability. This is while respecting the relationships between spirit and matter has already been mentioned in the 3rd item.

2.1.2 Comparison of Hannover Principles and Design Principle of IRIB

Scene design of children TV shows and space creation in these programs is actually a visual language, created by the designer, to transfer the subject and concept of the program to its viewers. Since children can relate mostly through visual objects and are proved to be more impressive in learning through a joyful experience rather than direct teaching system, the visual language of scene design can finely transfer the priorities and concerns of ethical sustainability to its viewers. Recognizing the importance of this visual language, directed the decision makers of IRIB to shape the following principles for the scene design of children TV shows;

1. Designing the scene should be in complete relate with aesthetical priorities and in accordance with the concept of the show.

2. The design should be shaped on the economy basis of providence and the designer should hesitate from costly design material or techniques. The scene should only include a limited percentage of the whole program budget.

3. Living social, cultural and economic indicators of the country's middle class families should be considered in the design of scene.

4. Consumerism shouldn't be encouraged through the utilization of costly elements in the design of scenes.

5. Reuse of the recycled elements and parts of older scenes is encouraged in the new scenes and their design in order to reach optimization in consumption.

6. Favors, taste and cognition of the child as the program's viewer should be considered in the scene design.

7. Besides transferring the concept of calmness and encouraging public social composure, the design of the scene should not be doleful and discouraging.

8. Religious values, social culture and national consensus should be considered in the scene design.

9. Scene designers should present their ideas based on a structured research and with the help of dominant consultants and professional advisers.

10. Iranian traditional Symbols, colors and designs ideas should be considered in the scene design.

11. Creativity and innovation in design is important and imitation and repetition should be strongly avoided.

12. Scene design should respect subcultures of the country and treat their related symbols as national evidence.

13. Scene design shouldn't encourage or promulgate baseless believes and superstitious customs.

14. Elements which carry national or cultural sensitivity should be used with accuracy and delicacy in the scene design.

15. The scene design should conduct calmness besides promoting joy, happiness and mobility in children.

16. In the TV shows with longer duration, the main structure of the scene should be saved and the diversity should be obtained through graphical and color changes.

A review on the presented principles of IRIB indicates high attention on economy factures and consumption rates which are important priorities of sustainability. Considering national cultures and even current subcultures of the country in the design of the scenes is also a strong sign of respecting the relationship between spirit and matter as one the items in Hannover principles. it seems like no conflict can be noticed between these two set of principles, yet comprehensiveness of IRIB design principles and the level of their attention on sustainable relations is a matter which will be analyzed in the following tables. Table1, 2 and 3 are presenting an accurate comparison of Hannover and IRIB principles on the basis of sustainable relations. In order to reach more accuracy in this comparative analysis, each relation is stated in one table and the two sets of principles are also directly compared with each other. This analysis will clearly show the shortcomings of IRIB design principles both in relate with Hannover principles and sustainability relations. In an overall view, it will also indicate the comprehensiveness of both sets of principles due to their ability in conducting with all three sustainability relations as the integrated approach of each of their principles;

Table 1. Comparative analysis of Hannover and IRIB design principles on the basis of human relationship with other contemporaries

Sustainability relations	Hannover Design Principles	IRIB Design Principles
The relationship between human and other contemporaries	1. Respect relationships between spirit and matter. Consider all aspects of human settlement including community, dwelling, industry and trade in terms of existing and evolving connections between spiritual and material consciousness. 2. Accept responsibility for the consequences of design decisions upon human well-being, the viability of natural systems and their right to co-exist.	1. Designing the scene should be in complete relate with aesthetical priorities. 2. Living social, cultural and economic indicators of the country's middle class families should be considered. 3. Consumerism shouldn't be encouraged through the utilization of costly elements in the design of scenes. 4. Favors, taste and cognition of the child as the program's viewer should be considered in the scene design. 5. Besides transferring the concept of calmness, the design of the scene should not be doleful. 6. Religious values, social culture and national consensus should be considered in the scene design. 7. Iranian traditional Symbols, colors and designs ideas should be considered. 8. Scene design should respect subcultures of the country. 9. Scene design shouldn't encourage or promulgate baseless believes and superstitious customs. 10. Elements which carry national or cultural sensitivity should be used with accuracy and delicacy. 11. The scene design should conduct calmness besides promoting joy, happiness and mobility in children.
	3. Seek constant improvement by the sharing of knowledge. Encourage direct communication, long term sustainable considerations with ethical responsibility, re-establish the integral relationship between natural processes and human activity.	12. Scene designers should present their ideas based on a structured research and with the help of dominant consultants and professional advisers. 13. Creativity and innovation in design is important.
	4. Create safe objects of long-term value. 5. Understand the limitations of design	--

Table 2. Comparative analysis of Hannover and IRIB design principles on the basis of human relationship with future generation

Sustainability relations	Hannover Design Principles	IRIB Design Principles
The relationship between human and future generation	1. Recognize interdependence. Expand design considerations to recognizing even distant effects. 2. Accept responsibility for the consequences of design decisions upon human well-being, the viability of natural systems and their right to co-exist.	1. The design should be shaped on the economy basis of providence and the designer should hesitate from costly design material or techniques. 2. Consumerism shouldn't be encouraged through the utilization of costly elements in the design of scenes. 3. In the TV shows with longer duration, the main structure of the scene should be saved and the diversity should be obtained through graphical and color changes.
	3. Eliminate the concept of waste. Evaluate and optimize the full life-cycle of products and processes, to approach the state of natural systems, in which there is no waste.	4. Reuse of the recycled elements and parts of older scenes is encouraged in the new scenes and their design in order to reach optimization in consumption.
	4. Create safe objects of long-term value. 5. Rely on natural energy flows. 6. Understand the limitations of design. 7. Seek constant improvement by the sharing of knowledge. Encourage direct communication, long term sustainable considerations with ethical responsibility, re-establish the integral relationship between natural processes and human activity.	--

Table 3. Comparative analysis of Hannover and IRIB design principles on the basis of human relationship with nature

Sustainability relations	Hannover Design Principles	IRIB Design Principles
The relationship between human and nature	1. Recognize interdependence. Expand design considerations to recognizing even distant effects.	1. The design should be shaped on the economy basis of providence and the designer should hesitate from costly design material or techniques. The scene should only include a limited percentage of the whole program budget. 2. In the TV shows with longer duration, the main structure of the scene should be saved and the diversity should be obtained through graphical and color changes.
	2. Eliminate the concept of waste. 3. Insist on rights of humanity and nature to co-exist in a healthy, supportive, diverse and sustainable condition. 4. Accept responsibility for the consequences of design decisions upon human well-being, the viability of natural systems and their right to co-exist.	3. Reuse of the recycled elements and parts of older scenes is encouraged in the new scenes and their design in order to reach optimization in consumption.
	5. Seek constant improvement by the sharing of knowledge. Encourage direct communication, long term sustainable considerations with ethical responsibility, re-establish the integral relationship between natural processes and human activity. 6. Rely on natural energy flows. 7. Understand the limitations of design.	--

Table 1 Indicates high attention of IRIB design principles on the relationship between human and other contemporaries, while this attention decrease noticeably when it gets to other tow sustainable relations in table 2 and 3. This is understandable due to the nature of TV shows and the scenes which should be designed in relate to that nature. On the other hand, Hannover principles have manages to put attention on all sustainable relations equally. As mentioned before, no conflict can be observed between the compared principles, yet, there are three Hannover principles which are not in relate with any of IRIB principles. These principles include sustainable priorities such as relying on natural energy flows and creating objects of long term value. The absence of these priorities in IRIB principles indicate lack of sustainability concerns between the decision makers of this filed, which will obviously not lead to ethical sustainable scene design of children TV shows.

It should also be noted that because of the influences of energy and material consumption on both nature and the ability of human future generation in meeting their needs, there are always some common items between these two sustainable relations when it gets to sustainable analysis, yet, a comprehensive principle is the one which could be called common in all of the sustainable relations (Becker, 2012). From this view point, Hannover principles are more comprehensive than IRIB principles because even though only 3items of IRIB design principles are common between two sustainable relations of human with other contemporaries and human with nature, Hannover principles with an inverse situation, have only three items which are not common between all sustainable relations and the rest can be strongly noted as integrated, ethical sustainable design principles.

2.2 Case Study Method

Exploring the effect of Current Design principles on the design of a TV show scene, and examining their shortcomings in accordance to the requirements of Ethical Sustainability, can be clearly achieved through analyzing a scene of the show which apart from being popular and publically consented, it has also been awarded for education and entertainment from Islamic Republic of Iran Broadcasting organization. Different scenes have been designed and built in various Iranian children TV shows recently, all following the design principles of IRIB, yet, the selected scene of this study is a scene located in one of the most facilitated studios of Tehran which is known as Tak Ta Studio. As the capital city of Iran, design samples of Tehran are known to be pioneers for the rest of the country and they are usually used for international examples. Therefore, findings based on a well publically known design example of an equipped studio in Tehran will be spotted and emulated in the rest of the country as well as Tehran Itself. As shown in Figure 1 Tak Ta Studio is located at the intersection of Molla

Sadra St. and Chamran Highway, near to Vanak Square at central north of Tehran. Also, Figure 2 shows the location of Vanak Square in Tehran.

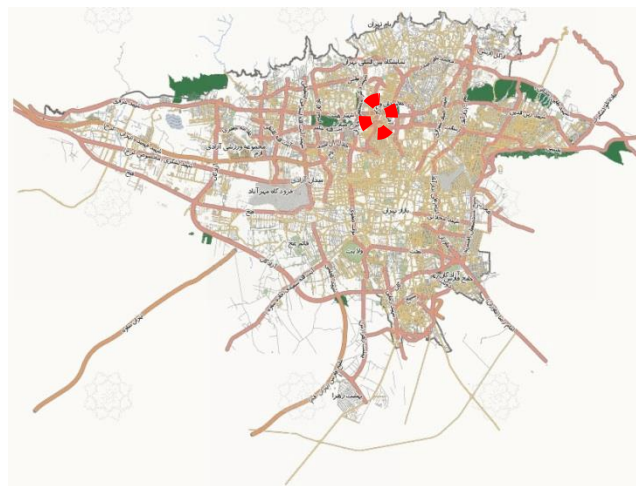Figure 1. Location of Tak Ta Studio at Central North of Tehran

Figure 2. Location of Vanak Square in Tehran

The campus of Tak Ta Studio is nearly $2000sq^2$, with its main entrance at Chamran Highway and its studio halls at the eastern extreme of the campus to avoid the noise pollution of the highway. The research aim is to evaluate ethical sustainability of the case study, based on visual data, on the grounds of Honnover design principles. As a set of sustainably integrated design principles, Hannover principles can be considered in the whole design and construction process of the scene which is outside the boundaries of research limitation in data collection, therefore, the constructed scene which is now being utilized for Fitileh children TV show is visually evaluated as detailed as possible and the design and construction process is not considered in the final analysis result.

It should also be noted that the influence of TV shows has already been spotted by the decision makers of IRIB and their established design principles have been considered in the scene design of Fitileh TV show. Therefore, an actual practice of IRIB design principles for the scene design of children TV shows can be visually evaluated in this case study.

2.2.1 Data Collection and Analysis

Fitileh TV show has been presented through the channel2 of Islamic Republic of Iran Broadcasting since 2003, and is still one of the most popular children TV shows of Iran. This children TV show is one of the numerous TV shows which has been able to upgrade itself from national to international level of IRIB organization, and has achieved fame and favor between Iranian children. This show has also been awarded by the above named organization for entertainment and education. The scene of this show is therefore, expected to contain a design in respect to its award, containing the goals of entertainment and education for children and act as a teaching tool. The tool which could indirectly teach the priorities of ethical sustainability to young children as future designers and decision makers of Iranian society.

The scene of Fitile TV show has an open design with designed elements placed at the sides of the scene and the show stage in the middle. Figure 3 and Figure 4 show the hall of Fitileh scene and the position of children. This rectangular hall has dimensions of 10m width to 12m length.

Figure 3. The hall of Fitileh scene

Figure 4. Children as part of Fiyileh scene design

Reviewed document show a cost of about $30 000 for the design and construction of the scene in Fitileh Show. The scene, in an overall look, is mainly focusing on color diversity and children scale. Scene design has finely concentrated on child's visual cognition and used variety of colors to become more interesting and attractive for the child viewer. Child has certainly been the estimated commander of this scene, because all of the parts and elements of the scene have been designed in accordance to the scale of children as shown in Figure 5. This delicate touch, apart from its appealing presentation, makes the guest children, who are personally active in the scene, feel more confident and reliant. These design strategies are very effective in shaping a supporting environment for children's relationship with each other.

Figure 6 shows the scene is surrounded by colorful benches from two sides. These benches have also been designed securely in accordance to child scale and comfort indicators. The benches are considered for the children who join the show as guest and it is through this design strategy, that children have practically become a part of the scene design in this program.
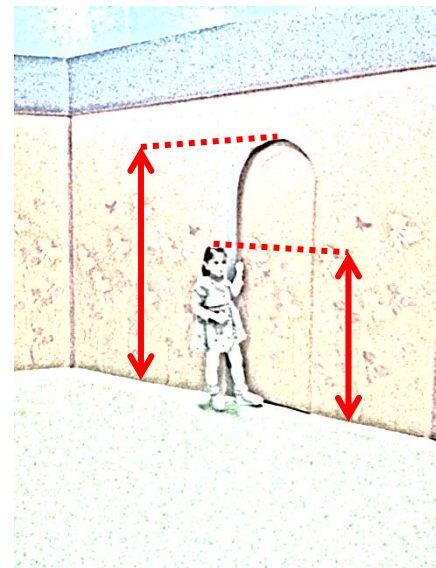

Figure 5. Considering children scale and ergonomics in Fitileh Scene Design

Figure 6. Colorful Benches of the Fitileh Scene

The seating parts of these benches include two different sections, shaped from different material. The soft, elastic part is comfortable for children to seat on, and the hard section behind the seating part, gives the child seating on the upper level of the bench enough space to ease his or her legs (Figure 7). It is obvious that the benches are designed due to child's ergonomics and scale (Figure 8).

Designing colorful branches and including children as part of the scene will decrease material and energy consumption as a whole, and will increase the attractiveness of the program and the effect of it on a child viewer in particular. In other words, this design strategy is helps the scene to become a more efficient teaching tool.

Hard part of the bench for more resistance and child's comfort

Soft part of the bench to offer comfort to child at the seating position
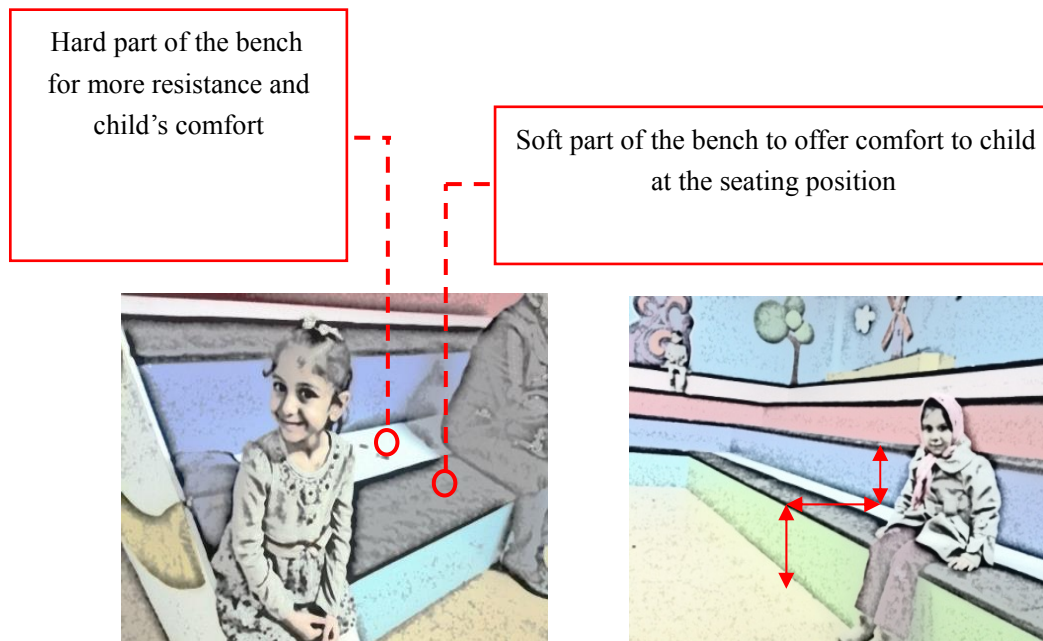

Figure 7. Designing in accordance to children comfort

Figure 8. Designing on the basis of Children Standards

Having camera men and recording facilities in the third side, the fourth side has been designed with more variable shapes and colors in the form of a joy train, which is the main idea of the design, and seems to be the longest, most attractive side of the scene. Most of the shows take place in front and in the wagons of this train.

The presenters and producers of this program see the show as a colorful train which comes, brings joy and fun, and leaves until the next episode. The wagons of this train allow divers locations for different parts of the show to take place, while all of the wagons are connected from behind and are flexible enough to serve the shows that need wider spaces.

The design strategy offers separate spaces for the presenters to present their shows, and it also enriches the design with enough flexibility and adaptability which helps to rise the efficiency of the scene and therefor, its professional life time. The composition of open and close spaces of the designed train (Figure 9) acts like a stimulator of child's exploring mind and attracts his or her sense of creativity and imagination. As mentioned, the train of joy is derived from the main idea of the program and is in shaped due to the concept of the show (Figure 10). This part of Fitileh scene design is, from this view point, in complete relate with sustainable relations.

Figure 10. Designing a train for the scene in accordance to shows concept

Figure 9. Multifunctional open and close spaces of train of joy in the Fitileh Scene

Color variation and shape diversity of Fitileh scene is suitable for child's mental health and creativity besides excitation of joy and happiness. Adjacent of guest's benches is the studios entrance and the center of the scene is the flat show stage. With the colorful train at the opposite side which cinctures the central stage show with the help of the graduated benches, a rational structure is presented through the design of this scene. This structured arrangement helps the child to seek calmness in the middle of so much diversity and variety of colors and shapes, and controls the feeling of excitement which is naturally emanated in this space.

Figure 12. Bigger scale of comic figures in accordance to their natural size and child's scale

Figure 11. Comic figures of nature's symbols at the background of the Fitileh scene

On the other hand, relationship between human and nature has been presented in a weak manner through the scene design of Fitileh show. Artificial flowers and mushrooms besides phantasy shapes of trees, clouds, sun and

sky at the background of the scene are the only symbols of nature in this scene design (Figure 11). The interesting point is the size of these elements which unlike the rest of the scene, is not due to the child's scale and in order to create visual delight for the child, they have been designed larger than their natural size in a comic manner (Figure 12).

This limited use of nature's images and symbols is visually unclear and disturbed by the settlement of the joy train and other designed elements of scene in front of them (Figure 13). It seems as if the design of the background caries no important for the whole scene design and that creating a supporting environment to note or indirectly teach the priorities of relationship between human and nature has never been one of the goals of design.
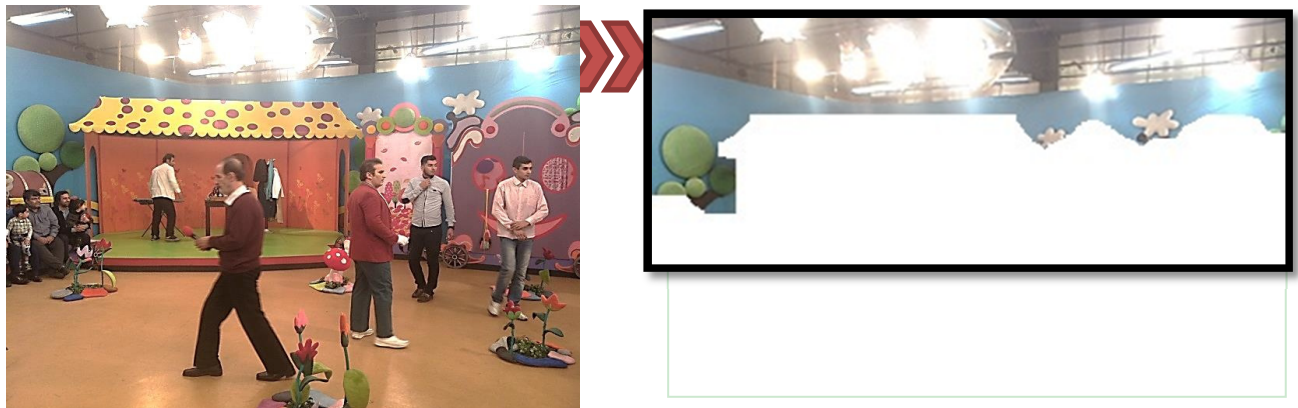

Figure 13. Limited view towards the comic features of nature at the background of the Fitileh scene

Consumed materials of this scene are fabric, metal, foam and products of plastic which as documents reveal, are 40% recycled or reused after the professional life of the scene had ended, and the 6% remaining will be wasted without an attempt. On the other hand, the resistant and safety of the used material is high and the built techniques also contain high strength which can be noted as a positive point in ethical sustainability analysis. Use of fireproof material in a scene which considers children as part of its design is a thoughtful action. Consumed energy, yet, is not from natural sources and this can be strongly observed as a weakness. Energy used in this scene is mainly electricity and due the sunny hours of Tehran, can be easily obtained through solar system, yet, no actions have been taken in order to decrease the use of energy use and consume of green powers. The current situation of the scene makes it obvious that the same unfortunate manner of energy use was engaged during the construction process which is the stage with the most energy requirement.

Ethical sustainability is an integrated dimension of sustainability which includes value systems. As a cultural value, use of national and traditional symbols in the scene design of children TV shows is the most simplest method of familiarize children with their traditional art and help the teaching tool of ethical sustainability to act more efficient through localizing this integrated dimension of sustainable design. In the case study of this research though, lack of attention to this important is noted. Using the mentioned simplest method of presenting Iranian traditional art or even color combinations, which remind this nation of their traditional design features, have been ignored in this scene design. The only spot where a sign of Iranian art can be stated is a graphical pattern of Toranj at the background of scene, behind the benches (Figure 14). This pattern belongs to early civilizations of Persia and is known to be drawn out of the sun symbol. As a famous Iranian pattern, Toranj is also used regularly in Iranian paintings, fabrics and carpet design industry and therefore, can be easily recognized by Iranian children. It could be concluded that the use of this pattern has been a correct choice due to children cognition of their land and art, yet, being sufficient to only this unit factor, will not lead to localizing sustainability and thus, cannot be considered as a useful act in regards to the indirect teachin of ethical sustainability through scene design.

3. Result of Evaluating Ethical Sustainability in the Scene Design of Fitileh TV Show

Ethical sustainability in scene of Fitileh TV show can be assessed based on Hannover design principles. This assessment will illuminate the existing shortcomings in scene design of Iranian children TV shows and consequently, in the established design principles they have been addressed to. Table 4 presents the result of this assessment on the grounds of sustainability relations.

Table 4. Similarities between Hannover design principles and the scene design of Fitileh TV show

Sustainability Relation	Hannover Design principles	Design strategies of the Case Study
The relationship between human and other contemporaries	4. Respect relationships between spirit and matter. Consider all aspects of human settlement. including community, dwelling, industry and trade in terms of existing and evolving connections between spiritual and material consciousness. 5. Accept responsibility for the consequences of design decisions upon human well-being, the viability of natural systems and their right to co-exist. 6. Seek constant improvement by the sharing of knowledge. Encourage direct communication, long term sustainable considerations with ethical responsibility, re-establish the integral relationship between natural processes and human activity. 4. Create safe objects of long-term value. 5. Understand the limitations of design	• Designing the scene in accordance to the concept of the show • Using children scale and designing in regards to their ergonomics • Designing the scene as a complex of multifunctional spaces • Placing the benches in adjacent to the entrance and the show stage at the centre of the hall. • Considering children as part of the scene design. • Considering high resistance, strength, safety and comfort for the used material and spaces in connect with children. • Use of traditional pattern in the design
The relationship between human and future generation	1. Recognize interdependence. Expand design considerations to recognizing even distant effects. 2. Accept responsibility for the consequences of design decisions upon human well-being, the viability of natural systems and their right to co-exist. 3. Eliminate the concept of waste. Evaluate and optimize the full life-cycle of products and processes, to approach the state of natural systems, in which there is no waste. 4. Create safe objects of long-term value. 5. Rely on natural energy flows. 6. Understand the limitations of design. 7. Seek constant improvement by the sharing of knowledge. Encourage direct communication, long term sustainable considerations with ethical responsibility, re-establish the integral relationship between natural processes and human activity.	• Considering high resistance, strength, safety and comfort for the used material and spaces in connect with children. • Designing the scene in respect of internationally accepted standards • Recycle or reuse of 40% of the consumed material
The relationship between human and nature	1. Recognize interdependence. Expand design considerations to recognizing even distant effects. 2. Eliminate the concept of waste. 3. Insist on rights of humanity and nature to co-exist in a healthy, supportive, diverse and sustainable condition. 4. Accept responsibility for the consequences of design decisions upon human well-being, the viability of natural systems and their right to co-exist. 5. Seek constant improvement by the sharing of knowledge. Encourage direct communication, long term sustainable considerations with ethical responsibility, re-establish the integral relationship between natural processes and human activity. 6. Rely on natural energy flows. 7. Understand the limitations of design.	• Recycle or reuse of 40% of the consumed material • use of local and easy to reach material • Considering comic features of nature in the scene design

Existing visual data show that the scene design of Fitileh TV show has concentrated on the safety and comfort of children as the essential part of its design. The design has been taken place in accordance to the program's concept and creating a joyful, colorful and creative environment for children's presence and the child viewer seems to be the main goal of the design.

On the other hand, inefficient use of nature's features and traditional patterns, avoiding the consumption of renewable energy sources, 60% waste of the used materials and concentrating only on the excitement aspect of child's character can be noted as the weaknesses of this scene design.

Overall, scene of Fitileh TV show can't be considered as an educational device and has not provided the possibility of indirect teaching of ethical sustainability. In fact, this scene has been designed as a suitable background of a children show which aims to conceive entertainment and direct education through the connection between its presenters and the viewers.

4. Discussion and Recommendation

4.1 Shortcomings of Design Principles in Iranian Primary School Design

This study shows that the design principles of "Islamic Republic of Iran Broadcasting organization" contain points in common with "Hannover Design Principles" and are not in conflict with them, yet, it doesn't cover all of the items of Hannover principles and therefore, it is not enough to obtain sustainability for the scene design of this organization's programs. These established design principles have not paid enough attention on the relationship between human and nature and the relationship between human and future generation. Even though IRIB principles are mostly concentrated on the relationship between human and other contemporaries, avoiding two items of Hannover principles, in relate with creating safe objects of long-term value and understanding the limitations of design, can be spotted in on the grounds of this sustainability relation.

On the other hand, visual analysis of the scene of Fitileh TV show indicates the presence of the avoided principles in the scene design. Yet, insufficient attention on the relationship between human and nature and between human and future generation can also be noted in the practiced scene design of an IRIB TV show for children. This similarity between design principle comparative analysis and visual analysis of the scene design emphasis the influence of design principles on the practiced scenes and the effect they could have in the creation of the scenes as indirect educational devices, in order to reach the priorities of ethical sustainability in the society. The following shortcomings are discovered in IRIB design principles, on the grounds of Hannover design principles:

- Insufficient attention to Seeking constant improvement by the sharing of knowledge.
- Insufficient attention to Encouraging direct communication and long term sustainable considerations with ethical responsibility.
- Insufficient attention to re-establishing the integral relationship between natural processes and human activity.
- No consideration in creating safe objects of long-term value
- No consideration in understanding the limitations of design
- No consideration in Relying on the natural energy flows

4.2 Recommendation

The revealed shortcomings in this research can act as a serious warning alarm for responsible Iranian designers and decision makers. They indicate the significance of pursuing an ethical sustainable view point in Iranian Design Principles. In addition, by discovering the existing shortcomings of IRIB design principles, the possibility of recommending new design principles based on the recognized priorities is provided which can eventually fulfill the shortcomings. As the conclusion of this study, a set of recommendations are presented in Table 5. These suggested strategies can strongly lead to the improvement of design principles for scene design of Iranian children TV shows.

Exploring the existing shortcomings in design principles requires understanding and recognition of concerns and priorities in ethical sustainability. This recognition is considered as the first effective step in achieving ethical sustainability in the design of scenes in children TV shows. Findings of this research - the shortcomings of IRIB design principle for scene design of children TV shows, in compare with Hannover principles and based on ethical sustainability - and the concluded recommendations, can lead to developing Ethical Sustainable Educational Design in Iran.

Table 5. Recommended strategies for shortcomings

Shortcomings	Recommendations
Insufficient attention to Seeking constant improvement by the sharing of knowledge.	Sharing knowledge in the process of scene design between decision makers and the professional team is important and must be obtained through open communications and procedural environment.
Insufficient attention to Encouraging direct communication and long term sustainable considerations with ethical responsibility.	Long term sustainable considerations should become an emphasis in the scene design and the process of its construction. Scenes should be designed in regards to ethical responsibility of designer, producer, presenters and the constructions team on the basis of sustainability relations.
Insufficient attention to re-establishing the integral relationship between natural processes and human activity.	Relationship between human and nature should be taken into account in all of the stages of scene design and construction.
No consideration in creating safe objects of long-term value	Safety and quality of the scene is important and the elements should be designed and produced based on long term consumption.
No consideration in understanding the limitations of design	Cognition towards limitations of design in the scene design for children TV shows should be gained and its influences on the design and construction process should be understood.
No consideration in relying on the natural energy flows	Natural energy consumption and the use of renewable energies should be encouraged in designing the scenes. Utilization of passive cooling and heating during the process of scene design and construction will also decrease energy consumption.

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