

## **The Prospect of Education System's Sustainable Development: Girls and Women's Empowerment in Educational Systems by Information Literacy Education**

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**Abstract:** Education for sustainable development is an approach of education which seeks to empower people to take responsibility for creating a sustainable future. The aim of this research is proposing a model of empowering women and girls with information literacy education. The research method is a systematic review. Document review was the way of collecting data by reviewing international and national documents such as UNESCO, United Nations agenda, Islamic Republic of Iran national development plan and national document of the fundamental transformation of education and the acquisition of competencies. The concept of women's empowerment and the concept of information literacy was reviewed in documents and based on research finding a model is proposed. According to the proposed model for the educational system in three levels of information literacy education: the first level-school learning center, the second level is information literacy standards for teacher education, the third level is information literacy education for administrative field. The reality in this study is that a place must be considered to meet information needs and education and needs of women and girls in order to have an important role in achieving gender equality and women's empowerment.

**Key words:** Information literacy education, girls and women's empowerment, sustainable development, education system, collecting data

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### **INTRODUCTION**

Education for sustainable development is an approach of education which seeks to empower people to take responsibility for creating a sustainable future. This program which has been designed following the approval of 57/254 resolution of United Nations General Assembly in 2002 which determines the 2005-2014 decade as "Decade of Education for Sustainable Development" in UNESCO includes social, cultural, economic and environmental aspects in which education has been considered as the pillar and main tool to achieve the objectives of the program (UNESCO, 2014). This program contains about thirty three categories based on the United Nations agenda for the 21st century (1993), some of which include: appropriate governance, gender equality, peace, human rights, access to education, fight against drugs, preservation of cultural heritage and indigenous and traditional knowledge, urbanization, poverty and food security, climate changes, natural disasters and etc. The objective of education for sustainable development is empowerment of people and

the society in understanding of taking responsibility and having responsibility creating a sustainable future. It is essential for education for sustainable development that Students and youth be educated in a way that they can have a better point of view about the future. A context be provided so that people at different levels and with different capabilities be able to have the power of critical thinking. This type of education requires creation of systemic thinking which means the creation of synergy between the relevant organizations and institutions because sustainable development is a multi-sectorial concept and it requires inter-sectorial and inter-organizational understanding for this reason. In addition to these, creating partnership and collaboration within the organization, participation in decision-making and decision-creating, rising awareness and taking responsibility having native and local critical thinking along with global perspective and also paying attention to lifelong learning are among other educational requirements for sustainable development. Also, UNESCO has considered a decade of Education (2005-2014) in guiding for sustainable development of united nations as a leading organization.

The road map document of UNESCO pays a particular attention to girls and women in order to reach the objectives of sustainable development education program and it has been written in this program that girls and women play an important role in promoting sustainable development and should be fully involved in the decision-making, policy making and providing educational programs. The goal in the post-2015 agenda has been determined in a way that by persistent deprivation and inequalities of women can be confronted by their empowerment which will lead to the promotion of inclusive and sustainable development and decent employment for them (UNESCO, 2014).

Information literacy education is extremely important and necessary in order to achieve the specific goal of equality and women's empowerment in the world of today's information-rich environment which has production of large-scale information and countless sources of information among its characteristics. Information literacy skills empowers women and girls in order to have the ability to have access and use information effectively. Information literacy enables women to have access to required information and knowledge and be empowered since information is power. If women and girls be able to achieve information literacy skills, then they can affect different types of information frameworks which give them the opportunity to exchange views, participate in conversations and constructive engagement with policymakers and decision makers and above all participation in management of women's affairs and they can affect the decisions which are taken for them. Thus, information literacy is an essential component of women's empowerment. If women and girls have information literacy skills, they will not drown in the ocean of information. In fact, women and girls without having access, assessment, achievement and use of information for social, political and economic situations in the developing world will be marginalized from the stream of community, the country and the world (Anasi and Ukachi, 2011).

**Statement of problem:** One reason for global concern in recent decades is this fact that women make up two-thirds of the illiterate population in the world. UNESCO literacy approach from the perspective of sustainable development and empowerment of women is understanding the different types of literacy and in this way that women can face the process of changes by achieving these literacies (UNESCO, 2014). UNESCO's global partnership for education for women and girls was carried out 15th of May 2011 with the aim of creating gender equality in education. There it was announced that

this is not the best approach and it is rather the most ingenious approach and the result was published as access to equality in empowerment of girls and women with literacy and secondary education (UNESCO, 2014). Thus, the empowerment of women and girls is among the important components in sustainable development and one of its pillars is literacy.

When women and girls participate in literacy programs, not only they manage to pass each grade and achieve skills and scientific knowledge but they are also empowered to make decisions and take responsibility for their lives and this also affects motivation, confidence and self-esteem (Martinez and Fernandez, 2009). Literate women feel better about themselves and provide better nurture for their children and have better job opportunities and use better financial services and are more successful in satisfaction of their the information and health needs. UNESCO (2014) has been named as "literacy and sustainable development" for this purpose. Literacy is one of the key elements needed to promote sustainable development because literate person is able to make the right decision in aspects of economic growth and social development and integration of ecological issues. Literacy is the basis and the foundation of lifelong learning and has a fundamental and vital role in creating sustainable, prosperous and peaceful communities. Literacy skills which are developing from basic level to advanced level throughout life are a part of a broader competencies which are essential for critical thinking, sense of responsibility, participatory governance, sustainable consumption and lifestyles, environmental behavior, biodiversity conservation, poverty reduction and disaster risk reduction (UNESCO, 2014). According to the Moscow's declaration in Media and Information Literacy (MIL), information literacy is a prerequisite for sustainable development in knowledge-based, inclusive and participatory societies, institutions, organizations, communities and the people who make up these communities.

Considering the fact that a special place has been considered for to the education and eradicate illiteracy in the 20 years vision of the Islamic Republic of Iran, National development plan and document of the fundamental transformation of education and the acquisition of competencies has been noted in documents it is essential to pay attention to enhancement of cultural competency of information literacy among women and girls and a program be considered for it. A model is provided in this article with the definition of women's empowerment and information literacy for information literacy education.

**The concept of women's empowerment:** Women's empowerment has multiple meanings and is associated with various strategies. For example, women were mostly used in organizations with focusing on selection domain and production level during the discussions about development in 90s. In 1970, the term empowerment was often associated with struggle for political and economic empowerment of women. Batliwala defines empowerment in a process in which people with disabilities in a community can have more access and control over material and information resources they fight discrimination and change the institutions and structures in which access is unequal and control over resources is sustainable and consistent (Batliwala, 1994). He has considered empowerment as a dynamic process with aim of changing the nature and direction of systematic forces which aimed to marginalize and exclude women.

Stromquist describes empowerment as a "social and political concept that goes beyond the formal political participation and increased awareness in an article titled empowerment training for women and argues that "the full definition of empowerment must have cognitive, psychological, political and economic components".

In another definition, Medel (1997) claims that Empowerment process should include not only individual awareness but also public awareness and collective actions. On the other hand, Sani claims that Women's empowerment is a process in which women will achieve inner strength to express and defend their rights and it will lead to having more self-confident, self-identity, self-esteem and control over personal life, personal and social relations.

Achunine (2009) by supporting this vision expresses that: women's empowerment simply means harnessing and developing the natural potential powers and capabilities of women for full usage and control over their environment, ability and capacity of decision making which leads to the development of individual, family, community and nation. This process of empowerment includes acquisition of necessary skills and knowledge, changing attitudes, courage and obtaining required values which are all acquired through education and training.

Thus, the empowerment of women is associated with social, economic and political empowerment which all require the removal of thinking in cultural norms and traditional practices where the characters of women are worthless and disadvantaged. Empowerment should include women's access to educational opportunities, facilitating access to facilities for achieving skills and access to the official roles and appropriate decision making positions. Information literacy is one of these skills.

**The concept of information literacy:** Information literacy is increasingly crucial in dynamic world which has rapid changes in technology and a wide number of sources of information as its characteristic. Information literacy which essentially includes the use of information contextually is a skill which is acquired by women less than men. Amucheazi defined information literacy as a set of skills and strategies which include ability to recognize the need for information, recovering needed information and evaluation of information. Ford (1995) in addition to supporting this definition emphasized that information Literacy is knowing when information is needed and having the ability to locate, evaluate and effectively use the needed information.

Doyle has defined information literacy as the ability to access, evaluate and use a variety of sources based on a research using Delphi method. In his view, the information literate person is one who:

- Knows that complete and accurate information is the basis of wise decision making
- Knows that he/she needs information
- Formulates questions based on the information need
- Identifies potential sources of information
- Develops successful search strategies
- Has access to information resources including computer resources and resources based on other technologies
- Evaluates information
- Organizes the information for practical applications
- Integrates new information to prior knowledge\ collective knowledge
- Uses information in critical thinking and problem solving

American Library Association has defined information literacy as shaper the framework of lifelong learning in all disciplines and learning environments and levels of general education. Information literacy enables learners to manage content and amount of search, be self-directed and overcome their learning. Thus, information literate individuals are able to:

- Determine the quantity and size of required information
- Access required efficient and effective information
- Critically evaluate information and its sources
- Add selective information personal knowledge base
- Efficiently use information to complete specific objectives
- Have economic understanding of rights and social issues of information using method and have moral and legal access to information and use it

Breivik claims that information literacy is part of critical thinking skills which initially starts with basic literacy which is the ability to read and write and then it is completed by information literacy which is necessary component for critical thinking skill most important of which are library literacy, media literacy, network literacy and visual literacy. He provides a description called information literacy umbrella which contains all new literacies. The diagram of information literacy umbrella includes the components of umbrella as computer literacy, library literacy, media literacy, network literacy, visual literacy and etc. and the section of critical thinking skill is in the impenetrable part of this umbrella.

Lau considers information literacy as knowledge and skill required for correct identification of necessary information to perform a specific task or solve a problem, useful research for information, organizing or re-organizing information, interpretation and analysis of information when they are discovered and retrieved for the first time, evaluating the accuracy and reliability of information as well as compliance with copyright for resources that it has achieved, communication and presentation of results, analysis and if necessary translation into other languages then using it to get the results and applying it and has considered the concept of information literacy in a diagram with components of skill development, clarity of information, bibliographic instruction and training of skills. Catts and Jesus (2008) believes that information literate person is who:

- Determines information requirements
- Locates the information and evaluates the quality of information
- Stores and retrieves information
- Has efficient and ethical use of the information
- Uses information to create new knowledge and establishing communication

These five components do not have linear process and elements linked together are placed in one structure. For example, a person may obtain some information and use it without evaluating the source and determine it as information requirement and the information may be stored to be used later (Catts and Jesus, 2008).

In general, information literacy is the ability of individuals to identify information requirements, storing and retrieving information, effective and ethical use of information and simultaneous use of information to create and transfer knowledge.

### The proposed model of empowering women and girls with information literacy education:

The 21st century is arena of changes and the world is affected by three major tendencies: development of information and communication technologies, the transition to a knowledge-based society and modern learning form network generation. These tendencies have created the need for changes in education and new competences for the citizens of the information society. Information literacy is one of the competences that is effective for empowerment and is one of the objectives of UNESCO literacy curriculum framework of information literacy education for teachers with main objective of helping teachers in developing countries to improve the ability of students in use of information literacy at school (UNESCO, 2014). Thus, given that one of the ways of empowering women and girls has been considered to be information literacy education, teaching this component in the education system as a model based on is a necessity. Based on this a model is presented at three levels of the education system, teacher training system and administrative field of information literacy education. The first level model has been presented based on a PhD thesis. The second level is based on the international standard and the third level is a proposal (Fig. 1).

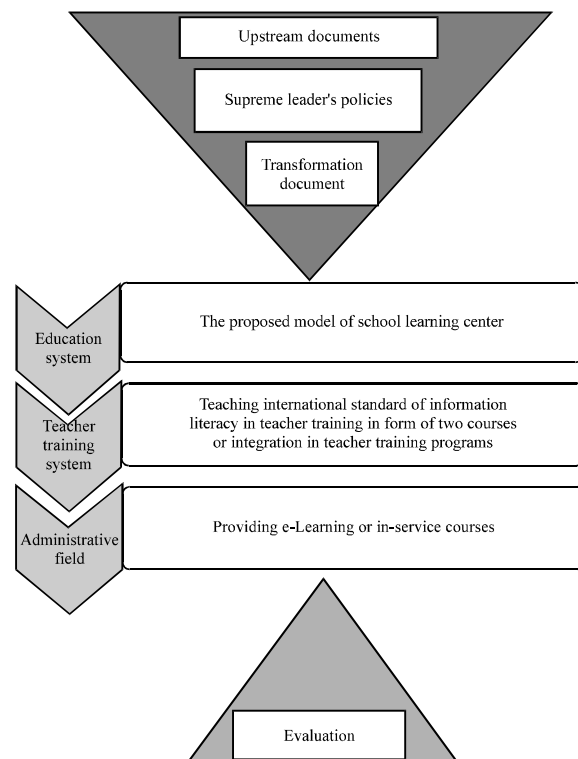


Fig. 1: The proposed model for the educational system in three levels of information literacy education

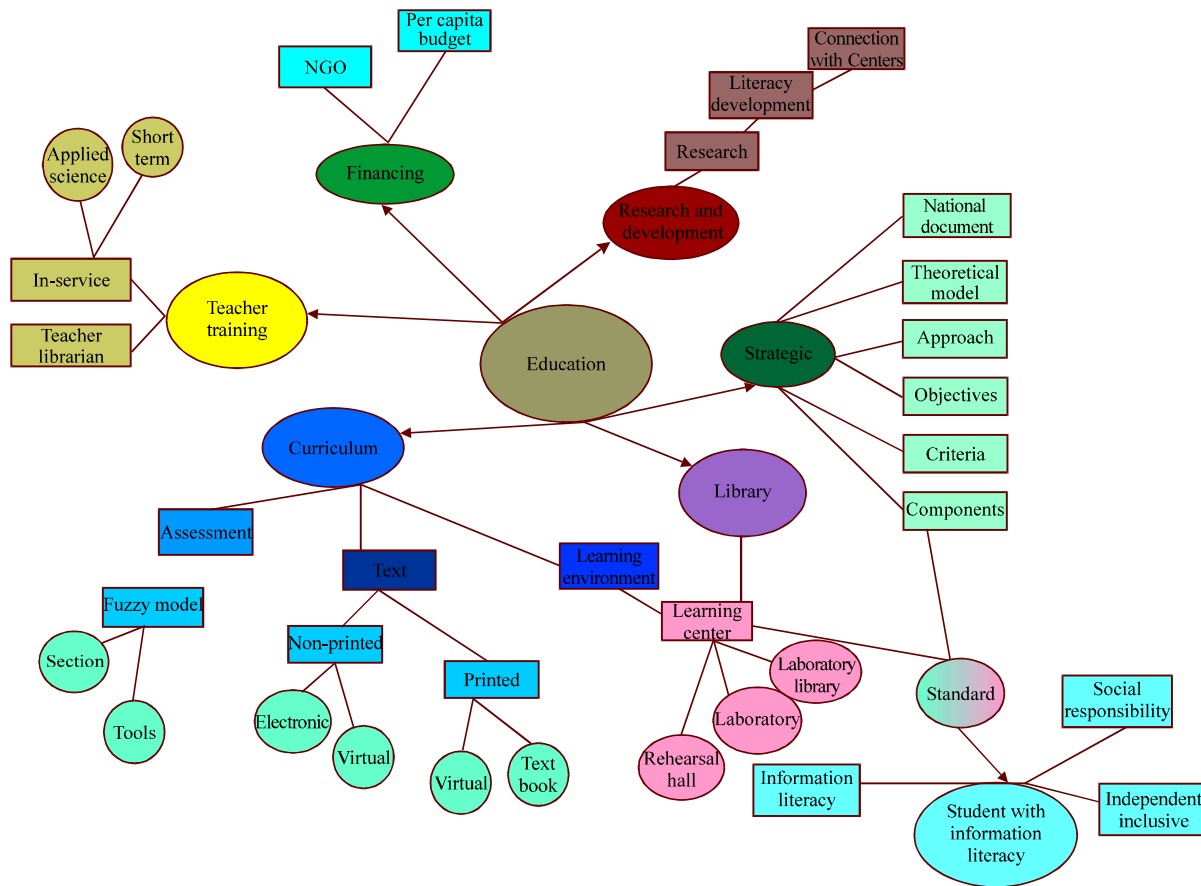


Fig. 2: The proposed model for teaching information literacy education system of the Islamic Republic of Iran

The first level-school learning center: this model which has been considered based on the main sub-systems of comprehensive theoretical model of formal and general training system doctrine of the Islamic Republic of Iran which includes sub-systems of education system, management and strategic planning, research and development, financing, teacher training system, learning center (school library) the national system of curriculum, evaluation and implementation system and has been designed based on international standards of information literacy learning of students (Fig. 2).

Information literacy standards for student learning is a conceptual framework and a guideline to describe students with information literacy. This standard has been determined in 3 levels, 9 standards and 29 indicators.

#### Information literacy

**Standard 1:** The student who is information literate accesses information efficiently and effectively.

**Indicator 1:** Recognizes the need for information.

**Indicator 2:** Recognizes that accurate and comprehensive information is the basis for intelligent decision making.

**Indicator 3:** Formulates questions based on information needs.

**Indicator 4:** Identifies a variety of potential sources of information.

**Indicator 5:** Develops and uses successful strategies for locating information.

**Standard 2:** The student who is information literate evaluates information critically and competently.

**Indicator 1:** Determines accuracy, relevance and comprehensiveness.

**Indicator 2:** Distinguishes among fact, point of view and opinion.

**Indicator 3:** Identifies inaccurate and misleading information.

**Indicator 4:** Selects information appropriate to the problem or question at hand.

**Standard 3:** The student who is information literate uses information accurately and creatively.

**Indicator 1:** Organizes information for practical application.

**Indicator 2:** Integrates new information into one's own knowledge.

**Indicator 3:** Applies information in critical thinking and problem solving.

**Indicator 4:** Produces and communicates information and ideas in appropriate formats.

#### **Independent learning**

**Standard 4:** The student who is an independent learner is information literate and pursues information related to personal interests.

**Indicator 1:** Seeks information related to various dimensions of personal well-being, such as career interests, community involvement, health matters and recreational pursuits.

**Indicator 2:** Designs, develops and evaluates information products and solutions related to personal interests.

**Standard 5:** The student who is an independent learner is information literate and appreciates literature and other creative expressions of information.

**Indicator 1:** Is a competent and self-motivated reader.

**Indicator 2:** Derives meaning from information presented creatively in a variety of formats.

**Indicator 3:** Develops creative products in a variety of formats.

**Standard 6:** The student who is an independent learner is information literate and strives for excellence in information seeking and knowledge generation.

**Indicator 1:** Assesses the quality of the process and products of personal information seeking.

**Indicator 2:** Devises strategies for revising, improving and updating self-generated knowledge.

#### **Social responsibility**

**Standard 7:** The student who contributes positively to the learning community and to society is information literate and recognizes the importance of information to a democratic society.

**Indicator 1:** Seeks information from diverse sources, contexts, disciplines and cultures.

**Indicator 2:** Respects the principle of equitable access to Information.

**Standard 8:** The student who contributes positively to the learning community and to society is information literate and practices ethical behavior in regard to information and information technology.

**Indicator 1:** Respects the principles of intellectual freedom.

**Indicator 2:** Respects intellectual property rights.

**Indicator 3:** Uses information technology responsibly.

**Standard 9:** The student who contributes positively to the learning community and to society is information literate and participates effectively in groups to pursue and generate information.

**Indicator 1:** Shares knowledge and information with others.

**Indicator 2:** Respects others' ideas and backgrounds and acknowledges their contributions.

**Indicator 3:** Collaborates with others, both in person and through technologies, to identify information problems and to seek their solutions.

**Indicator 4:** Collaborates with others, both in person and through technologies to design, develop and evaluate information products and solutions.

**The second level is information literacy standards for teacher education:** Rapidly changing Information and technology landscape requires information literacy skills for searching, navigation, evaluation and use of information. Teachers play a key role in this matter by providing diverse learning opportunities and methods of wise use of information for students. All teacher education students from pre-school to the 12th base (grade (PK-12) teachers) need to comprehensive understanding of information literacy for their knowledge production activities because this understanding will

eventually affect the students. The development of knowledge and tools of information literacy is essential for teaching students because students need to achieve the ability to evaluate and use different types of continuously changing sources of information before doing any scholarly work and teaching before serving in order to execute this model in their classes when they are selected as teachers for pre-school to twelfth grade in order to present the method to critically pass the meandering road of today's information and method of using information to create a valid argument. Information literacy competency enables pre-service teachers to develop a strong understanding of the role of information in their lives and design a model of information literacy for students in preschool up to twelfth grade. According to the executive instruction of education committee of college and research libraries association related to american library association 2006-2007 to 2010-2011 approved by the board of directors of the association of college and research libraries at the special meeting of the executive committee board in May 11, 2011, information literacy standards were developed for teaching students.

**Standard one:** The information literate teacher education student defines and articulates the need for information and selects strategies and tools to find that information.

**Performance indicators:**

- Defines the need for information
- Articulates the need for information
- Selects strategies to fulfill the information need
- Selects tools to find information

**Standard two:** The information literate teacher education student locates and selects information based on its appropriateness to the specific information need and the developmental needs of the student.

**Performance indicators:**

- Locates information
- Selects information

**Standard three:** The information literate teacher education student organizes and analyzes the information in the context of specific information needs and the developmental appropriateness for the audience.

**Performance indicators:**

- Organizes information
- Analyzes information

**Standard four:** The information literate teacher education student synthesizes, processes and presents the information in a way that is appropriate for the purpose for which information is needed.

**Performance indicators:**

- Processes information
- Synthesizes information
- Presents information

**Standard five:** The information literate teacher education student evaluates discrete pieces of information as well as the entire information seeking process.

**Performance indicators:**

- Evaluates individual pieces of information
- Evaluates the information seeking process

**Standard six:** The information literate teacher education student knows how to ethically use and disseminate information.

**Performance indicators:** A Ethically uses and disseminates information.

**The third level is information literacy education for administrative field:** Given the fact that there is a definition for education courses and teacher training system, training methods in forms of e-Learning, distant education (books, pamphlets, brochures, etc.) and short-term courses of in-service training based on combining these two standards for those involved in administrative field are recommended. Also creating link of information consulting for staff in different sectors of administrative field in the site of the office of womens affairs could meet the information needs of staff (Fig. 3).

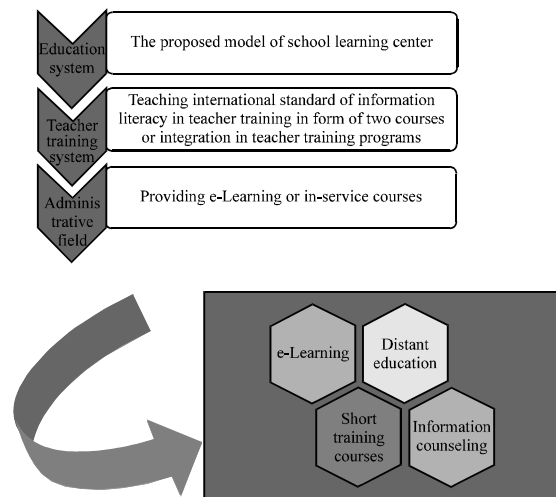


Fig. 3: The proposed model for the third level information literacy education for administrative field

## CONCLUSION

Humans are the center of sustainable development and it has become one of the most important challenges of the 21st century. Women and girls have been considered as the main concerns of the education community and hence serious dedication to this discussion is extremely serious in both terms of education and development. In fact, discussion of information literacy and its indicators helped to spread the concept of sustainable development in the education sector. We live in the information era and information is growing with incredible speed. Internet, TV, satellite, radio and other sources of information are available 24 h a day, 7 days a week. Although, the information is quickly available but that does not mean that this information is valuable or real. Achieving and selection of all this information is time consuming and information literacy has been suggested as one of the global strategies. A person with information literacy is who can identify the time when information is needed and has the ability to locate, evaluate and effectively use the needed information. The information literate person has better career and living opportunities, has a questioning spirit and has perseverance to find the needed information. Having information literacy is one of the criteria for citizenship in the knowledge-based society and is a lifelong learning tool. Many models and standards have been developed for teaching information literacy. Information literacy is taught in schools and college campuses and is a concern for international organizations and must also be placed on the agenda of scientific and research organizations. Education system, information literacy and women's empowerment are items necessary for the realization of the millennium development goals. Needed information of young women

which has been incorporated in resource center of health implementation has been established for this matter. The reality in this study is that a place must be considered to meet information needs and education and needs of women and girls in order to have an important role in achieving gender equality and women's empowerment.

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