



Department of the Environment

**« Transfer of Technology Consultative
Process Asia and the Pacific Regional
Workshop»**

Islamic Republic of Iran

Country Paper

Presented By:

Saeed Motesaddi Zarandi,(Ph.D)

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1- Introduction

The treat of global warming now forces the evaluation of importance of our environment. It forces consideration of the sacrifices must be made to ensure an acceptable quality of environment for the future.

As an environmental problem, global warming, must be considered on an entirely different scale from that of most other environmental issues :

The effects of climate change are long - term, global in magnitude, and largely irreversible.

Technology is one of the most important factor to cause climate change.

To day, technology has been contributing with human life. When it separates from our life, we can't live for along time.

We seek to address these key questions: What technologies are available to respond to the problem of climate change and its associated effects? and what new technologies are needed?

In response to above questions shall be said, " Human and environment adopt to the negative effects of climate change, changes in climate extremes and climate variability, through a combination of technological and behavioral adjustment. Therefore, we need the technologies, Green Technology , which help reduce the impacts of climate change, response to social circumstances and benefit for human health".

2-Technology needs and technology needs assessments

A number of factors may influence the technology needs . The following four factors are discussed below :

- ***High efficiency of productivity***

Technology supplier must be transferred the technology with high efficiency of productivity to the technology receptor. This efficiency shall be based on knowledge transfer , training , infrastructure development and support , low cost , raw materials and work-force, and an understanding of the needs and cultural aspects to receptor country .It must be noted , it can be difficult to predict the effectiveness of technology .

- ***Mitigation of greenhouse-gas emissions***

Certainly , global cooperation is an important consideration when addressing global warming issues. No single country contributes more than a fraction of greenhouse - gases, and only a concerned effort can reduce emissions.

At present , as developing nations grow and consume more energy, their share of greenhouse-gas emissions will steadily increase. It is important for other nations to offer and accept technology and technological assistance , respectively, can mitigation greenhouse - gases and grow in an energy - efficient manner.

- ***Low- cost of investments and financing mechanisms, operation and maintenance***

Technology receptor is intended to fund with low - costs. It must be considered the limited resources of investment, and

operation and maintenance costs in non -Annex 1 countries (like Iran). Most of the technologies are generally expensive and often there is very little money available for these countries.

It is mentionable that the technology transfer discussion shall be presented as intergovernmental commitment. In this case, all of the nations must be presented the policies to facilitate the contracts and cooperate with private sectors.

- ***Economical , social and cultural circumstances***

In order to create an effective flow and interface for the development and transfer of technologies, it is necessary to recognize the economical , social and cultural circumstances of both recipient and supplier countries .

Acceptance percent of technology is the most discussion factor in the receptor country .The training is an important component of the development and transfer of technologies. An important pathway for the transfer of technologies via the training young professionals from developing countries in developed countries These qualified professionals are called “ expert “ that they are important for technology transfer.

3-Capacity building needs

The exchange of information among parties has produced a very successful technology transfer . raining is a kind of exchange of information. Training is conducted through work shops , seminars and technical training. These technical activities are conducted to raise the Green Technology capacity, government agencies, educational and research institutes and experts.

The capacity building needs to include major adequate skills . This implies that training courses ought to be established in any developing nations , like Iran, to develop these skills (atmospheric pollutions , climate change and so on). Lack of global creditable centers caused to reduce the scientific capacity.

Therefore, maintenance instruments such as Internet, Leaser line and Direct Dishes must be provided for experts of developing nations (such as Iran and etc).

These years, capacity building were successful and indeed helped to decrease the technological gap by non - Annex I countries. Technical assistance is another manner as it was originally conceived to close the technical capacity gap between industrial developing countries by accelerating the transfer of knowledge , skills and expertise , thereby building national capacity .

It is mentionable that Iranian experts and consultants prepare the greenhouse -gas inventories and do a lot of environmental researches about the air pollutions and transboundary effects in our country universities.

4- Barriers to technology transfer

Many examples of barriers to the development and transfer of technologies are described below :

- Lack of public maintenance for international commercial and banking system in open and clear space*
- Lack of tendency for recognizing and accessing of “ Green Technology“ that is located in public domain*
- Lack of human capabilities and basis*

- *Lack of viewpoint and knowledge about the local requirements .*
- *Lack of technical and financial information and of a demonstrated track record for many adaptation technologies*
- *Lack of a technology knowledge base for assessment, impact and adaptation suitable technology*
- *Lack of full cost pricing on environmental resources*
- *Instability, inflation, poor macroeconomic conditions and disturbed and / or transparent markets*
- *Lack of incentives for private sector especially firms because of low technical capabilities and insufficiency investment*
- *Lack of financing and difficulty of dealer/installer firms to finance systems*
- *Low price of energy (for example subsidies) cause the worst incentives for acceptance of economy manners.*
- *Lack of confidence to economical, commercial and technical development cause to loss every markets for “Green Technology“*
- *Lack of purchasers awareness of importing technologies and side - effects*
- *Lack of scientific, engineering and technical awareness of private sector*
- *Lack of trained human resources*
- *Lack of education and training infrastructure*
- *High prices of the contracts*
- *Lack of exact research and development because of poor investments and financing mechanisms*

- *Lack of communication between participants*
- *Lack of public awareness*
- *Lack of public acceptance and social issues .*
- *Lack of accessibility, economically and availability of technology transfer for developing countries*
- *Consideration of political issues in climate change and technology transfer*

5- Possible actions and initiatives to remove barriers

We need the specific strategies for removing barriers , because they are enormously complex and complex from country to country . The following elements constitute some of the barrier removal measures :

- *International coordination and cooperation between developed and developing countries (recipient and supplier countries)*
- *Information transfer in different levels and direct communication between information producers and consumers*
- *Training of any persons for modern technology*
- *Promote public awareness for modern technology and technical revolution*
- *Regional transfer : this part is the most important for barrier removal activities . If the needs and constraints of each country will be resemble to each other , it prefers to*

have inter-transformed their technologies , that called regional transfer

This kind of technology will be suited in some aspects . The transfer of technology has faced to less barriers in countries which have the same geographical , social and cultural circumstances. It is mentionable , these countries have the same economical situations and remove economical barriers easily . In fact, It is necessary that these countries must be cooperated and communicated with each other in technology transfer.

It is noted that there are many methods for monitoring of greenhouse- gases emission in different countries(source or sink countries). If the technology has transferred in one region, all of the countries, in one region, would solve their problems with similar strategy. This process is important for the countries whose are in Persian Gulf area, because of source countries (oil- rich countries) for greenhouse- gases emission, and must be presented the unity strategy for solving the problems.

One of them is Clean Technology for Oil. The most efforts shall be performed in relation to oil technologies and these technologies move towards to, respectively, Green Technology and Available Technology.

This matter will be a step in order to implementation of 4.8 & 4.9 articles of climate change convention, and the countries must be committed by execution and practical measures.

6- Opportunities for investment and private sector participation

The private sector most closely associated with the development and transfer of technologies . Through its technical capabilities , financial resources and commercial networks , the private sector has establish a worldwide mechanism for technology transfer.

As a result, Iran will be transferred small industries to private sectors. Through private sector initiatives the uptake of efficient and identifies strategies for strengthening both the supply of and demand for technology .

With this manner, we use of total work-force (%100) in governmental organs , like as Department of the Environment (DOE) has been forced on private industries more than before and approved the technical standards for human health form industrial pollution .As a result , all of the industries must be observed .

Frequently , transfer of industries to private sector helps design , plan and implement projects identified by national government and finance providers and benefit for economical situations of our country. We hope this approach will implement for great industries in near future .

7- Ongoing and planned technology transfer of technology activities

Change of fuels, from fossil fuel to natural gas, is an executive affairs in the power plants in Iran. Most of the power plants

has consumed from natural gas for combustion in all of the seasons and emitted less greenhouse - gases.

The fuel has been substituted in great industries and even part of transport systems. Regarding to this matter, DOE has been emphasized to change the fuel all industries, from fossil fuels to natural gas. This technology has been transferred in Iran. Some of the power plants has been changed successfully to combined cycle plants, Because the most important greenhouse - gases emission resources are power plants

8-Key elements of successful transfer of technology activities

The most implementation methods for technology transfer are as follows:

- To promote public awareness*
- To remove barriers according to special national condition of each party*
- To hold more training workshops*
- To train skillful experts in universities*
- To allocate more budget for promoting technologies and substituting new technologies instead of old ones*
- Regional transfer*

9-Conclusion

It can be concluded that having technology is inevitable but the point is , it should be considered according to the special

national circumstances of each party . In addition to the public awareness , the knowledge improvement of the national legislators is very important.

In this regard , all of the parties should take into consideration the necessary practices to remove all the technology barriers in order to reach the purpose.

One of the most important cases will be regional technology transfer. The term of “Clean Technology for Oil “ is the momentous affair for the oil-rich countries because their economy depend upon oil production. This process (Clean Technology for Oil) can be significant case for implementation of 4.8 & 4.9 articles of climate change convention.