

## Study the Challenges in the Water Section of the Sixth Development Plan from a Portfolio Management Perspective

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### Abstract

In recent years and with the intensification of international sanctions against Iran, the supreme leader of the Islamic Revolution has proposed a new approach to economics called resistance economy with the aim of overcoming the country's economic problems and improving the livelihood of the people. Now, after a few years of this plan, we have evaluated, in this study, the results of this plan in the Water Section of the Sixth 5-Years Economic, Social and Cultural Development Plan of the Islamic Republic of Iran using the portfolio management theory to address and examine the challenges of this perspective. The findings of the study indicated that Iran has faced lots of problems and difficulties since the sanctions and on the other hand, weak management in agriculture, water and production resources in this section can be clearly seen. Accordingly, application of modern management methods in irrigation and the exploitation of Iran's water resources as well as the formation of a specialized water commission in the parliament along with the public participation are suggested.

*Keywords:* Water; Resistance Economy; Sixth Development Plan; Portfolio Management

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### 1. Introduction

Nowadays, the political power and the effect every country has on the world can be partially related to the country's economy; the more dynamic and efficient economic system has a country, the more and better financial and political interactions with other countries around the world it will have. The Chinese economy in the two last decades, as an obvious example, can be mentioned in

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this regard by which China has managed to capture the economic pulse of many commodities around the world. In the term economics, the economy is used as the knowledge to study economic events in the field of production, distribution and consumption. In other words, the purpose of economics is to investigate the methods of using the scarce resources in order to produce goods and services to be distributed among needy people and social groups for their consumption (Agha Nazari, 2006). We can examine this science from different perspectives. Accordingly, the resistance economy is one of these perspectives that Iran has been tangibly faced with it in recent years. The nature of the resistance economy, which has also been emphasized by the supreme leader of the revolution, is a combination of parallel, regenerative, defense and model economy; and in practice, putting these aspects together, the explanation of the resistance economy can be properly possible (Peyghami, 2012). The goal of this approach is therefore an ideal economy, which is both Islamic and cause the country to be the first economy of the region. In other words, a resistance economy should be an economy that is inspirational and effective in the Muslim world on one hand and forms the basis of the great Islamic civilization, on the other hand.

Since, the term "resistance economy" is not in the academic economics literature, it can perhaps be said that such an interpretation has been for the first time introduced in economic terms in recent years and of course, there are many definitions of the resistance economy as well. Looking at the different interpretations have been proposed toward the resistance economy, we can attribute the most comprehensive definition of it to the supreme leader who has said: "Resistance economy is an economy which provides the basis of growth and prosperity for a nation even under the pressures and sanctions". The supreme leader has also stated the meaning of the resistance economy as follows: "Resistance economy means the economy, which is resistant and will not be changed or disturbed with the global provocations and motivations or US and non-US policies and it is strongly dependent on people" (Supreme Leader speech, 2014). Therefore, the resistance economy means strengthening and tightening the foundations of the economy in both sanctions and non-sanctions. It is obvious that to succeed in this economic plan more and more, a set of related factors and institutions should be jointly coordinated with each other and provide appropriate solutions for the production to be implemented. Among some useful solutions that can act as the motive force of this plan in both resistance economy and sanctions are: Economic planning, Optimal utilization of natural resources, Quality-focused and high-quality goods, Discipline in work and economic activities, Meeting economic priorities and needs, People's attention to work and effort and their participation in production, Creating productive activities and employment by government, Supporting domestic producers, Optimal use of oil, Remove unnecessary intermediaries as well as monitoring and controlling economic activities.

On the basis of the above-mentioned materials, we have to evaluate the success in any economic plan, including the resistance economy, to identify its strengths and weaknesses and solve related problems by providing appropriate ideas and solutions in this area. The portfolio theory is one of the theories has been recently used, which is a set of projects, plans and other tasks that are put together in order to facilitate their effective management and estimate the strategic goals of the business. The portfolio exists within the organization and includes a set of current, planned components as well as initiatives for the future. The portfolio isn't then temporary like projects or plans and any organization may have one or more portfolios that each is specific to a particular type of business or purpose. When the suggested initiatives are identified, selected or verified then they become a part of the portfolio. The portfolio will any time provide a view of the selected components and reflect the strategic goals of the organization. However, special projects or plans within the portfolio are not necessarily interdependent and there is no need to be directly related to

each other. Reflecting the investments made or planned by the organization, the portfolio management consists of the processes to identify organizational priorities, investment-related decisions and resource allocation. Based on the PMI<sup>†</sup> standard at a higher level, a set of projects (to create a product, service or result) or plans (a set of related projects that are managed in a coordinated manner) as well as other related tasks in an organization which are grouped together to facilitate the effective management and achieve the strategic goals will form a portfolio (Farahani, and Mahdilooyi Taze Kandi, 2012). So, it can be briefly said that the portfolio management will start by providing careful consideration and sensitivity to the strategic plans and will end up with the right selection of projects and in the meantime, proper project portfolio management will evaluate, select, prioritize, budget and plan for the projects. Therefore, we have attempted in this study to examine the weaknesses and strengths of the Sixth Development Plan of Iran from the perspective of this theory in order to see that to what extent is this development plan in coordination and harmony with or against the portfolio theory?

## 2. Materials and Methods

The law of the Sixth 5-Years Economic, Social and Cultural Development Plan of the Islamic Republic of Iran, which is designed and planned to be implemented in 2017-2021 has obliged the government to apply the related-projects and plans as well as the Regulations of the General Headquarters of the Resistance Economy only in different areas in the annual budget; in the following a brief introduction of these areas is mentioned.

- a) Specific strategic issues in the water and environment
- b) Specific location-based issues on the development of Makran coast, Arvand and the regeneration of dysfunctional urban texture (outskirts and worn-out textures), historical textures and rural areas
- c) Specific issues which the economy will be faced with on mine, the mining industry, agriculture, tourism, transit, rail transportation, new technology, development and application of science, technology and energy
- d) Specific macro-household sector issues on improving the business environment, employment, cyberspace, financing efficiency for the e country's economy, fair payment system and discrimination removal, empowering the poor and needy people (bread-winning women are in priority), social insurances, organizing and sustainability of the insurance and pension funds, preventing and reducing social harms, implementing the Fundamental Evolution Document of Ministry of Education, public culture and the Iranian-Islamic lifestyle
- e) Developing Defense Readiness and Security

This plan is divided into different sections, including macroeconomics, monetary and banking system and financial, business environment, privatization, free zones, regional balance along with rural development and empowering vulnerable groups, agriculture, natural resources, energy & industry & mine as well as transportation and housing; the plan will specifically deal with each of these sections and their dimensions in terms of different Articles and Paragraphs. Given the vast extent of these sections and the many factors involved in each, we have specifically examined, in this study, the water section in the Sixth Economic, Social and Cultural Development Plan of the Islamic Republic of Iran; because the problem of water scarcity and drought in the country, especially in the recent years, is very important and paying much more attention to this is worthy;

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in the case of not addressing seriously, it can have severe and irreparable consequences for the country in the field of environmental risk, the desertification, the agriculture, the quality of people's livelihood, the economy and etc. Based on the Article 35 of the law of the Sixth Economic, Social and Cultural Development Plan of the Islamic Republic of Iran, the government is obliged to take the following actions in order to solve the water scarcity crisis, release the environmental water rights for the lands' sustainability, agricultural sustainability and increase production in agriculture, balancing the underground aquifers and improving the water productivity and compensating the water balance to the extent that in the final year of law enforcement this amount reach to eleven billion cubic meters:

a) Increase the performance per unit area and productivity increase in agricultural production, the products with comparative advantage and high export value and cultivars with less water need and compatible with salinity, drought resistant and meet the appropriate cropping pattern with the area are prioritized.

b) Developing the new irrigation methods, perform soil and water operations (structural and non-structural), development of sealants and catchment systems at least 600,000 hectares per year

Note- At least 85% of costs to develop new irrigation methods are supplied and financed yearly by the government as a grant.

c) Support the development of the greenhouses and transfer the cultivation from open space to the controlled space as well as wastewater recycling, managing the unconventional and virtual water.

d) Design and implement the cropping pattern with emphasize on the strategic products and improving the water productivity within the framework of the general policies of the Resistance Economy, as well as supplying the necessary resources and requirements in the form of annual budget and providing appropriate support and incentives only within the cropping pattern

e) Restoration and dredging the Qanats up to 5% of the status quo during the law enforcement of this plan with an emphasize on watershed activities and aquifer Management to restore the Qanats

f) Establishing the necessary infrastructures to raise 200,000 tons of fish in the cage until the end of the law enforcement and develop the fisheries activities and creating the infrastructures on the country's coast

g) Energizing the agricultural wells which have the operating licenses (Note: the resources required to implement this clause are supplied from the fossil fuel saving of the Subject of Article 12 of the Act (Approved 2015/04/21) of removing the barriers of the competitive production and improving the country's financial system

h) Install the smart and volumetric water meter by granting facilities from funds operated on wells with operating licenses until the end of the Law enforcement

i) The use of water extracted from the dams with supplying the needed drinking water priority in the catchment area of the dam

j) Providing the farmers with the water rights from the rivers, springs and Qanats from the water of the dams constructed in these places

k) Restructuring the water consumption of steel, alloying and mining companies and refining the cooling and washing systems of the raw materials until the end of the fourth year of the Law enforcement

l) The government is obliged to define the cropping pattern design for all regions of the country until the end of the first year of the Law enforcement and execute this cropping pattern during the years of enforcing this Law. The Ministry of Energy is required to provide the farmers with water allocation according to the cropping pattern design.

Based on the above, we have assessed the mentioned materials in the water section of the Sixth Economic, Social and Cultural Development Plan of the Islamic Republic of Iran using the Portfolio Theory. The portfolio management system with control and direct the resources in the optimal path and in order to achieve the strategic goals and plan is used as a tool for the financial management of the organization. Therefore, the function and importance of the portfolio management system in the resistance economy will be twofold, because using this system will help the managers achieve greater effectiveness in management by controlling the resources and aligning the projects and activities with the organization's strategic goals. In other words, the strategic management practices and focus on macroeconomic axes will be facilitated and improved by establishing and using the portfolio management system and accordingly, the fulfillment of the indicators and objectives in the field of resistance economy will be developed and strengthened (Akhondi and Saadati, 2017). In order to do this significant task, the implementation steps of the portfolio management process in an organization must include evaluating the current status of the desired portfolio management process, defining the vision and perspectives and portfolio management plan as well as implementing and improving the processes. Additionally, creation and establishment of the portfolio management system in an organization in three parts: designing and implementing the basic principles, software support and finally, the continuous implementation of processes can be tracked which all of the tasks must be tracked and done in all of the steps, by the project management team members who have a wide and full understanding of the philosophy and principles of the processes and necessary tools (Javidi Kermani Nejad and Hosseini, 2016). Generally speaking, among the establishment-related challenges and difficulties the portfolio management system is faced with, the following can be noted: decentralization of management, incoordination of the design, support and implementation issues in establishing the management system, lack of specialized knowledge and expertise, lack of high-level documents or a clear strategic plan appropriate to the level of management, separate the portfolio management from the project management and overcoming the facilitation of portfolio reporting to the facilitation of the effective management (Javidi Kermani Nejad and Hosseini, 2016). Among the variables that can be studied in the investigation of the sections related to the Economic, Social and Cultural Development Plan of the Islamic Republic of Iran, the following can be mentioned: subsidy reform, the effects of economic sanctions, investments, inflation rate, world recession, oil revenues and etc. About the topics discussed in this study, we have investigated having an effective manager and an authority able to increase the efficiency of operation under these conditions in this study using the portfolio theory, in addition to having a robust economy and the necessary financial resources that can largely address the problems caused by the water section and its negative consequences.

### **3. Results and Discussion**

Economic Growth implies an increase in the national production or the Per capita income (PCI). Economic Growth can be considered as the increase of production of goods and services by any means in a country. Examining the historical trend of the Per capita output and the economic growth rate in Iran as well as comparing it to other countries will illustrate important problems in the Iranian economy. The findings from the researches indicate that a variety of external and internal factors will influence on a country's economic growth. Examining the historical trend of the Per capita output and the economic growth rate in Iran as well as comparing it to other countries will illustrate important problems in the Iranian economy. The first one is the Iranian low per capita output given the country's potential capabilities, which suggests the Iranian low level of economic welfare. The second one is that the production growth rate and consequently the economic welfare

are increasing slowly as a result of the low level of production. The third is the economic growth rate is very volatile and unstable. Of course it should be noted that the Iranian low per capita output at present is mostly because of the low economic growth rate in the past decades, especially the sixties in which the economic growth rates were even negative. If the Iranian economy, indeed, experiences the high and stable economic growth rate over a relatively long period, it can be expected that the per capita output and consequently the economic welfare will significantly increase (Akhondi and Saadati, 2017).

In many countries worldwide, whether developed or developing, the current methods of the water consumption are mostly unstable. The world is faced with a set of increasing quantitative and qualitative problems in the field of water at local and regional levels. The limitation of water resources and discharge very large amount of pollutants into the water resources is weakening one of the fundamental resources on which human society is based. Fresh water is not only a global resource, but also a regional one, which is available in certain catchment areas of the world and there is no proportionality between water resources and population distribution [6]. In some the catchment areas, these limitations are seasonal, which depend on the ability to store the water in drought periods. In other regions, the limitations are influenced by the amount of the re-feeding of the groundwater table, snow thaw or the forest soil capacity to store the water. Since water is the only source of life, then its consumption may be limited depending on the extent the upstream lands are contaminated as well as groundwater (Javidi Kermani Nejad and Hosseini, 2016).

There are two types of important solutions based on which the government can adopt to compensate for the water scarcity and manage the water resources: technical-engineering (structural) and managerial-structural and governing solutions (non- structural); it seems that both must be done in parallel. Executive measures in the technical-engineering (structural) solutions are mostly technical solutions which require field management. These solutions are well known, but their implementation needs a tight cooperation between various ministries and departments as well as active participation of citizens. The necessity of implementing these strategies in Iran should be considered as emergency coefficient, which the most important of them can be listed as follows:

1. Changing the irrigation methods in agriculture to the drip irrigation or the pressurized irrigation.
2. Changing the cropping pattern and directing the farmers to cultivate the species which need less water consumption
3. Desalination from the high seas and moving it to the dry-lands
4. Changing the water storage methods
5. Expansion and completion of sewage systems in all cities and villages
6. Sewage treatment and the recirculation of recycled water to the water supply network or flooding it into the underground beds
7. Reconstruction of the outdated and old drinking water piping networks
8. Stop granting the well drilling licenses throughout the country
9. Shutting the illegal wells even at the expense of reducing the agricultural productions
10. Using meters for the authorized water wells
11. Revision of dam construction policies
12. Expanding watershed to strengthen underground resources
13. Promoting greenhouse cultivation and the like
14. Prohibition of granting licenses for the industries that use water in unsuitable areas and establish these industries on the south coast.

The technical-engineering solutions are those that most of the officials are familiar with them and some steps, even very few, are taken every now and then in order to use them; but the main issue which has been neglected for many years, is the managing and governing mechanisms or in other words, non-structural mechanisms which plays a far more important role in the water management in the country. Accordingly, these can be said as the most important water management-structural and governance solutions.

Laws and regulations for water governance and management have been legislated over the last 70-80 years, which has today caused this tragedy. Government and Parliament are required to revise all the laws which are any way related to the water, such as agriculture, industrial development, urban development, spatial planning, increase or decrease of population and the like. Some of the laws legislated in the years after the revolution were only due to the emotions of that time and were just concerned with self-sufficiency in the agriculture and didn't pay any attention to this that at what cost should this self-sufficiency be achieved?

There are currently three different committees in the parliament; each has some responsibility for the water of the country. The Agriculture-Water and Natural resources Commission will deal with the agricultural water needs and the development of agriculture; the Civil Commission will deal with the construction of production networks and systems, water treatment, water storage and distribution; the Energy Commission will also deal with the issue of water for power generation.

There are Ministry of Agriculture Jihad, Ministry of Roads and Urban Development and Ministry of Energy in parallel to these commissions; each Ministry is responsible for each of these commissions and the minister of energy will sometimes go from one commission to the other and will answer to the same questions from the interests and duties of the concerned commission. There is totally a kind of chaos and confusion about the issue of water in the parliament and this confusion as well as not having a single policy will show itself in the society.

The issue of water is so vital, so that it needs to establish and form an independent commission and ministry of the same name; and also all of the activities which deal somehow with water should be united. Accordingly, on one hand, the self-sufficiency policy in agriculture cannot be promoted and on the other hand, no attention be paid to its environmental consequences, the development of the industries that use water in the dry-lands cannot be continued and then, force the Ministry of Energy to supply the water to those industries and the developing the cities and the towns cannot be done without any consideration of water resources. Therefore, it can be unfortunately said that lack of coordination in the main activities had caused chaos in the water section. "Tooba Plan" is one of those regulations that need to be revised, reviewed and evaluated. In this plan, the document of a waste land will be granted to anyone who makes it cultivable and fertile. This plan has led everyone, without any study and knowledge, to drill a well and develop agriculture in places not suitable for cultivation at all and the overall estimation is that this plan results in devastating the Iranian resources in exchange for non-economic production. Maybe it is now the time to investigate the results of these documenting and probably many of those lands which have not enough efficiency and are still working, to be gotten out of farming or so called being retired. Finally, apart from the natural factors and global warming, the current drought in Iran is caused due to the mismanagement of water resources, lack of citizen participation and supervision in this vital issue and another indicator of widespread corruption in the Iranian administrative system. Therefore, the followings can be briefly said in order to improve and solve the problems of the Iranian water sector:

Decentralization of water resources management and governance, reviewing and changing the governing laws and water resources management, providing citizens participation in governance

and management of water resources, forming and establishing a specialized water commission in the parliament, forming and establishing the Ministry of Water and changing the role and position of the Supreme Water Council.

#### 4. Conclusion

The followings can be the areas of an economic epic: creating a profound change in the national economy with a Jihadi spirit, the courageous arrival and struggle of the people and authorities, an evolutionary and self-sacrificing mass movement to solve the problems of livelihood, a fundamental change in the main categories of economics, such as production, consumption, work and effort, growth and development in agricultural-industrial-service sectors and supplying the necessary facilities within the orientations specified in the Iranian system. The Resistance Economy has the potential to become an academic theory and can serve as a roadmap and be novel phenomenon with the essence of resistance as well as a great manager in the conventional literature. Since almost the vast majority of the economic plans will be faced with lots of challenges, by reviewing this plan from a portfolio management perspective, it can be said that we will still have a long way ahead until reaching to its prominent goal; we can expect to reach the supreme goals of the Supreme Leader of the Revolution in a near future by solving the problems of mismanagement and using the elites in various sectors especially in the water sector.

#### References

- Agha Nazari, H. (2006). *Theorizing the Islamic Economics*. Tehran: SAMT Publisher, 39.
- Akhondi, M., & Saadati, R. (2017). The challenges facing the resistance economy. *The 5th International Conference on Economics, Management, Accounting with Value Creation Approach*, Shiraz, NARON Educational Institute of Certified Managers.
- Farahani, M., & Mahdilooyi Taze Kandi, A. (2012). Portfolio optimization using Martingale Theory: theory and its application in economics and managements. *The 3rd Conference on Financial Mathematics and Applications*, Semnan, Semnan University.
- Javidi Kermani Nejad, M., & Hosseini, M. H. (2016). Analyzing and reviewing the overall environmental policies in the sixth economic development plan of the country based on the Supreme Leader's remarks. *The 1st National Conference on Crisis Management, Safety, Health, Environment and Sustainable Development*, Tehran, Mehr Arvand Higher Education Institute, Center of Sustainable Development Solutions.
- Peyghami, A. (2012). Resistance Economics Case. *Ma'aref Monthly Educational Information*, (93), 9-10.
- Speech by the Supreme Leader of the Revolution in Mashhad, 2014/03/21, retrieved from: [www.kamemi.ir](http://www.kamemi.ir)