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Research Article

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The performance and inhibitors of the new agricultural extension system: Towards empowering small-scale farmers in Iran

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ABSTRACT - Agriculture is an essential instrument for development, poverty alleviation, and food security in developing countries, such as Iran. The agricultural sector of Iran is dominated by small-scale farming, and the yield of most crops is low. A well-designed and well-functioning agricultural extension system can facilitate the transition toward productive, profitable, and sustainable agriculture. However, the top-down agricultural extension system of Iran has left most smallholder and resource-poor farmers with no access to advisory services, and their problems have remained unresolved. The new agricultural extension system (NAES) was initiated in 2014 to better respond to the problems of smallholder farmers. However, there is still no definite reflection on the influences of the NAES on agricultural development. Therefore, this study aimed to evaluate the performance of the NAES. Also, it purposed to identify the blocking mechanisms hindering the NAES' function. In this regard, qualitative research was planned and conducted in Fars Province, Southern Iran. The findings revealed that NAES has managed to enhance the availability of extension services for smallholder farmers, improve the productivity and profitability of agriculture, and reduce livelihood vulnerability. However, it has failed in facilitating access to remunerative markets, mobilizing sustainable financial and human resources, and being entirely demand-driven because of financial, physical, institutional, market, natural, informational, capability, and psychological constraints. Some recommendations and implications are offered to improve the effectiveness of the NAES.

INTRODUCTION

The agriculture sector plays an essential role in promoting the economic growth of Iran, contributing to almost 13% of the country's GDP (Zarafshani et al. 2019). As a major sector, agriculture provides about 85% of the raw materials for industries. Also, nearly 20% of the workforce depends directly on agriculture as the primary source of livelihood and survival (Zarafshani et al. 2019). Therefore, agricultural development can increase productivity, boost farm-based income, and eradicate persistent poverty (Baloch and Thapa, 2019). However, Iran's agricultural sector is dominated by small-scale farm families, who represent 64.1% of rural households (Statistical Center of Iran, 2019), and the yield of their primary food crops is often below international standards.

Several issues have emerged with low agricultural productivity in Iran, including an increase in climatic risks, the deterioration of water resources, the degradation of soil fertility, increased erosion, the application of rudimentary technologies in production, and the low adoption of modern technologies (Etemadi and Karami, 2016; Forouzani and Karami, 2011; Karami, 2006; Karimi et al. 2020; Maddah et al. 2015; Nazari et al. 2018; Rezaei-Moghaddam and Karami, 2008a). Also, low levels of education among smallholder farmers, limited employment opportunities in the nonfarm sector, a weak and ineffective extension and advisory service system, and poor local agri-governance (Alizadeh et al. 2018; Keshavarz et al. 2017; Madani, 2014) have increased the vulnerability of this sector to climate change, the degradation of natural resources, and rapid population growth. Therefore, it is vital to raise productivity by paying enough attention to small-scale farmers.

Well-designed and well-functioning agricultural extension systems (AESs) can empower small-scale farmers. However, in most developing countries, AES is facing several challenges like the unprofessional design of advisory programs, geographically vast and scattered areas, the disproportionate ratio of extension workers to farmers, inappropriate service delivery systems, a lack of end-user participation in the planning process of extension programs, an insufficient budget, inadequate personnel, untrained extension workers, inadequate transportation facilities, and a lack of logistics and materials (Anang et al. 2020; Namyenya et al. 2021; Rezaei-Moghaddam and Karami, 2008b). Due to the poor performance of AESs, Iran's government has initiated an inclusive package of

reformation strategies (i.e., the new agricultural extension system; NAES) to enhance the relevance, effectiveness, and efficiency of its AES.

NAES was implemented as a pilot in 12 provinces, including Ardebil, Azarbayejan Gharbi, Azarbayejan Sharghi, Fars, Gilan, Golestan, Kerman, Kermanshah, Khorasan Razavi, Mazandaran, Qazvin, and Zanjan. It was later scaled up to the whole country. The tenets of the NAES were mentioned as follows: inclusion of all farmers (e.g., smallholders, resource-poor farmers, and commercially and viable progressive farmers) as target beneficiaries, decentralization, region-specific program planning, providing cost-effective agricultural and rural extension services, setting demand-led extension services, strengthening extension-research links, re-organizing and equipping the AES centers, empowering extension workers through the knowledge management system, application of an appropriate methodology for increasing the capacity to co-innovate and co-develop knowledge, and providing integrated extension and environmental support for farmers (Ranaei Kordshouli and Mortazavi, 2016).

As a set of policy, planning, implementation, and monitoring mechanisms, NAES envisaged a pluralistic extension system with more significant roles for nongovernmental and private organizations (Ansari, 2017). However, routine assessments offer little guidance on how to improve NAES efficiency, and there is no widely accepted framework for assessing the success of NAES. Therefore, adopting a qualitative research approach, this paper aimed to 1) address the perceived merits and failures of the NAES; and 2) identify the blocking mechanisms hampering the NAES's performance. The results of this study can help policymakers and planners provide theoretical and practical solutions toward empowering small-scale farmers and achieving sustainable development goals.

Evolution of Agricultural Extension Systems in Iran

The agricultural extension system in Iran, which was supported by FAO, the Near East Foundation and the Truman Doctrine, was initiated in 1953 (Fig. 1), employing a top-down directional approach (Iravani, 1991). At that time, the national agricultural goals were promoting agricultural production and rural livelihoods (Rezaei-Moghaddam and Karami, 2008b). Therefore, the critical function of AES was the dissemination of innovations to crop and livestock producers (Karami, 1986). AES consisted of the provision and dissemination of timely and appropriate information about new planting and harvesting methods, providing training services for farmers regarding various aspects of agriculture, linking farmers with sources of agricultural inputs, and most importantly, the transfer of technology (Malek-Mohammadi, 1993). The conventional AES was a success story in the first decade, and many studies documented its impressive results for agricultural development in Iran (e.g. Iravani, 1991; Karami, 1993; Zamanipour, 1994). Unfortunately, AES failed to meet its planned goals because of land reformation in 1962 (Fig. 1). The land reformation was initiated, aiming to modernize the traditional rural society of Iran (Rezaei-Moghaddam and Karami, 2008b). The extension workers became mostly involved in the redistribution of farmlands, which diverted AES from its real philosophy and tasks (Zamanipour, 1994).

In the early 1970s, the Green Revolution type of AES was considered (Fig. 1). During this period, the AES's contribution to the transformation of traditional agriculture called for a significant shift in its goals and functions. To increase the adoption of high-yield varieties, the latest technologies were conveyed to the farmers, and they were also trained in alternative practices. The extension agents conducted field demonstrations of high-yield varieties and improved input delivery to ensure enough access to high-quality seeds, fertilizers, and chemical inputs. However, not all farmers had access to such information and advice. Advisory programs mainly skewed toward large-holder farmers (i.e., progressive farmers), and extension services failed to disseminate technology and information among small and marginal farmers effectively (Iravani, 1991; Karami, 1986). Also, the linkage between extension and research organizations was poor in providing a package of information for the farmers (Rezaei-Moghaddam and Karami, 2008b).

In 1979 and 1980, the Islamic Revolution of Iran and the Iran-Iraq war happened (Fig. 1), and a period of low commitment to the AES started (Amirani, 1996). For almost five years, the extension services were perceived as an unnecessary tool, and no definite goal was set for this moribund system. Due to the eight years of war, low financial resources for covering the costs, and low staff strength, no serious efforts were made to revitalize the AES. Extension agents mainly took part in the handling of oil products and food subsidies provided by the government for rural households. From 1985 until 1996, sustaining AES became a great challenge for policymakers to increase agricultural production and economic growth (Amirani, 1996). As a result, several demonstration projects were launched. The demonstrations were aimed at exhibiting the production potential of new technologies and increasing the adoption of technical innovations and advice. Nevertheless, decades of experience have proven that the concerns and problems of smallholder and marginal farmers have been neglected, and this group of farmers has not equally benefited from extension services. Moreover, AES gradually lost its effectiveness in reducing persistent poverty (Hayati and Karami, 2005).

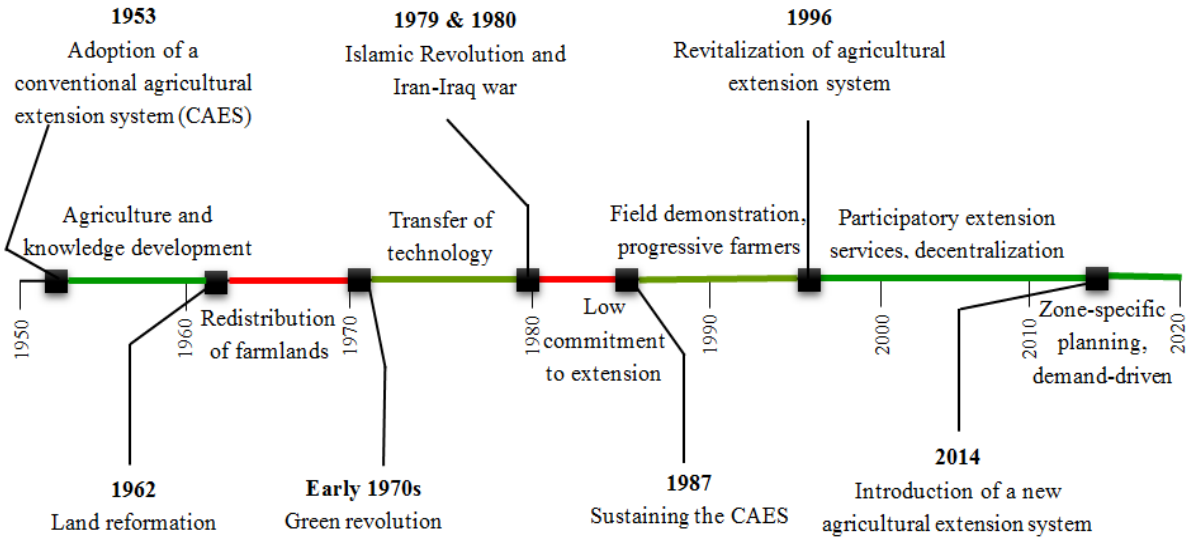

Fig. 1. The timeline of agricultural extension evolution, highlighting the important events (Own representation based on the review of more than 20 works of literature)

The limited effectiveness of the agricultural extension system in alleviating poverty and increasing economic growth, and great concerns about the sustainability of the natural environment (Rezaei-Moghaddam and Karami, 2008b), motivated reconsideration of agricultural extension goals and policies in the late 1990s and 2000s (Fig. 1). As a consequence, farming system research (FSR) emerged, and the interaction of extension workers with research centers improved. In light of the sustainability conflict between farmers and government agencies, some researchers proposed conflict management based agricultural extension (Ahmadvand and Karami, 2007). Moreover, distant advisory services by the means of media and farmer field schools were introduced (Amiri Ardakani, 2009) to ensure the effective determination of farmers' concerns and problems, enhance farmers' capacity to analyze their production systems, ensure equitable provision of information, and improve productivity and income. Also, private centers of technical and consulting services and plant protection clinics were established with the intention of decentralizing the delivery of advisory services and providing more effective extension activities. While Iran's Ministry of Agricultural Jihad reorganized the delivery strategies of the extension services, the effectiveness and efficiency of AES remained low, and this system was not able to meet the overall needs of agricultural development benchmarks in the fast-changing environment (Ranaei Kordshouli and Mortazavi, 2016). The majority of smallholder farmers lacked essential farm instruments and inputs and employed traditional practices (Alizadeh et al. 2018). To increase the relevance and efficiency of the AES, it was necessary to replace its narrow and commodity-oriented approach with a broader, farmer-led, demand-driven, and bottom-up planning system that can benefit more from stakeholders' participation. Building on the six decades of experience, an inclusive package of agricultural extension reformation strategies (i.e., NAES) was introduced in 2014 (Fig. 1).

The NAES is more holistic in scope and content, beyond the transfer of technologies, and provides a more proactive and participatory role for extension workers and farmers. To pave the path of NAES and meet the real problems and needs, extension agents were encouraged to apply several recognized approaches and provide site-specific recommendations with the aid of the knowledge network. While NAES is perceived as a great change in the extension system, its performance is not free from organizational and implementation challenges.

MATERIALS AND METHODS

Research Setting

The Fars Province in southern Iran is where the study was carried out. Agriculture is a cornerstone of the province's economy, and several crops are grown in the area because of its topography, climatic conditions, and fertile lands. However, the majority of farm families produce agri-food crops at subsistence levels. In order to better address the problems and challenges of subsistence and commercial farming households, a pilot NAES was started in 2015. A provincial committee made up of managers, deputies, and specialists from the Fars Agricultural Jihad Organization was constituted to ensure equity and integrity. The members of committee once divided the Fars Province into 600 zones based on a variety of factors, including climatic attributes, physical boundaries, and cultivation areas. However, this committee chose to adopt the NAES initially in smaller areas to address the considerable impacts of NAES while enhancing the efficiency and effectiveness of extension and advisory services. As a result, the pilot region was chosen as 95 zones supported by 14 Extension Service Centers (Table 1). Additionally, some extension workers from the provincial, township, and sub-county extension offices were selected to participate in the pilot NAES project. These extension agents were in charge of providing farm households in the assigned zones (village or villages) with door-to-door and inclusive services. Each agent was required to plan an appropriate strategy for addressing the needs and to offer multiple agricultural and rural consultancy services whenever the farmers contacted.

Table 1. Number of NAES zones of selected service centers in Fars Province, Iran

Location	County	Service senter	Number of zones
Northern Fars	Sepidan	Homaijan	7
		Beiza	6
Western Fars	Kazeroon	Hoomeh	6
South-western Fars	Firoozabad	Hoomeh	13
South-western Fars	Farashband	Dehram	2
Southern Fars	Mohr	Asir	2
Southern Fars	Larestan	Juyom	4
Northern Fars	Safa Shahr	Ghader Abad	6
Central Fars	Marvdasht	Hoomeh	15
		Naghsh Rostam	10
Central Fars	Shiraz	Zarghan	10
		Siakh Darengoon	4
Eastern Fars	Estahban	Eij	4
Eastern Fars	Fasa	Shibkooh	6

Research Method

Due to the complexity of NAES dynamics and its enabling and blocking mechanisms, a qualitative method (i.e., a case study) was applied to identify the merits, failures, and impediments of the NAES project. Participants were chosen using purposive sampling and an interest-influence matrix (Reed et al., 2009). The designated agents (DAs) were selected based on their continuous engagement in the NAES process, their in-depth knowledge of the NAES's tenets, goals, and process, their experiences and practices regarding the NAES's implementation, and their interest in becoming actively involved in the study. The purposive sample size was determined on the basis of theoretical saturation. In this respect, 65 professionals (i.e., the DAs) were selected.

To shed light on the performance of NAES, in-depth semi-structured interviews were conducted with the DAs. The agents were asked to evaluate the usefulness of the NAES's interventions and list the: a) advantages and disadvantages of using NAES; b) merits and failures of NAES; and c) factors or conditions that hamper the performance of NAES. The responses were referred to several times to compile, condense, and transform for detecting thematic categories. The extracted thematic categories formed the basis for the coding process (Strauss and Corbin, 1998) and an in-depth analysis of functional merits and failures, systemic problems, and blocking mechanisms of the NAES performance. Based on the agent's elicitation, eight non-excessive and relevant blocking mechanisms were distinguished. Adopting a qualitative research approach made it possible to move back and forth between data many times. It facilitated the identification and re-identification of the impediments, prevented biases, and improved trustworthiness. Moreover, applying refutation analysis and constant comparison made it possible to ensure the reliability of the results (Yin, 2003).

RESULTS AND DISCUSSION

Perceived impacts of the NAES' policies and practices

The findings of this study revealed that 50.77% of the extension agents showed a moderately positive attitude regarding the usefulness of the NAES's interventions. However, 43.08% of the agents exhibited a negative attitude towards the benefits of NAES's strategies and practices (Fig. 2). While transformation in the agricultural extension system was happening in the right direction, the results indicated that NAES could not successfully meet all determined goals (Fig. 2), and several major problems remained unresolved.

An in-depth analysis of the qualitative data revealed that several signs of progress were brought out by NAES (Fig. 2), although the extent of the achievements varied in different zones. The NAES was perceived as efficient in concentrating on smallholder and resource-poor farmers who had not been equally supported by the conventional extension system, consistent with the findings of Babu et al. (2019).

The conventional extension had been more focused on increasing agricultural productivity, while NAES kept focusing on structural changes within the farming systems and supply chains. With this respect, NAES extended the range of extension practices at the zone level. Adopting field demonstrations, farm visits, farmer field schools, training, and many other methods did not only increase the access of farm families to reliable knowledge and information but also enhanced the ability of DAs to meet the needs of various stakeholders rapidly, in line with the findings of Baloch and Thapa (2019). The NAES's interventions were further associated with the adoption of a variety of climate-compatible seeds, balanced consumption of chemical inputs, the adoption of modern irrigation facilities, and higher yields of crops. Conducting a series of zone-level technical and training activities improved the sustainability of farm families' livelihoods. It also increased the credibility of the new extension system and recognized NAES as a reformed and legitimate system, that was consistent with the findings of Babu et al. (2019).

Furthermore, by arranging several training sessions for staff at the regional level, NAES increased the confidence of extension agents about their abilities to respond to farmers' demands, interact with different groups of stakeholders, and collaborate with agricultural researchers. NAES also properly recognized the importance of extension services to national and regional-level managers and policymakers, as evidenced by more financial support for extension practices. NAES also helped to strengthen the interaction of DAs with the Fars Agricultural Research Center through

regular meetings at the zone and district levels. This finding was similar to the results of Babu et al. (2019).

The qualitative results revealed several deficiencies in the NAES's performance (Fig. 2). NAES was found to be fairly inefficient in value creation and articulating market development in agricultural innovation processes. Most extension workers had inadequate knowledge and expertise regarding marketing, and they could not promote market formation for conventional and new agricultural products, in line with the findings of Minh (2019). They could not facilitate the farmers' links with marketing agents and farm-equipment providers, and they failed to encourage rural cooperatives and other farmer organizations' investments in market development [Designated Agent (DA) 30, male].

Moreover, the NAES's activities for mobilizing financial and human resources were discerned as unsustainable and ineffective. While funding for the NAES was significantly higher compared to the conventional extension approach, public funding was perceived as inadequate and untimely. Without sufficient and prompt public funding, the long-run sustainability of NAES will be threatened. Another major issue was the shortage of qualified extension workers in some regions. In the framework of NAES, recruiting capable and well-trained agricultural extension agents was ignored. Failure to provide a sufficient workforce reduced the efficacy of extension services in some zones.

As a demand-driven system, NAES aimed to decentralize authority from the center (i.e., the national or regional levels) to the zones. However, the extension services were designed and delivered downstream using the traditional top-down linear approach [DAs 24, 37, and 46].

NAES had an inadequate institutional capacity to broaden the scope of informed actors who could cooperate, support, and interact with each other to improve the efficacy of extension services. It, therefore, led to ineffective communication and public-private partnerships in setting short- and long-term strategies for the successful implementation of NAES. If the relevant actors are not adequately involved in the NAES's activities and do not apply their communication channels to the introduction of NAES, many farmers will be deprived of the NAES's benefits.

Mechanisms Blocking the Efficiency of NAES

The results indicated that several blocking mechanisms impeded the effective performance of NAES, including 1) financial, 2) physical, 3) institutional, 4) market, 5) natural, 6) informational, 7) capability and 8) psychological constraints (Fig. 3).

The extension agents declared a mismatch between the extension budget and the financial requirements of NAES. A similar problem has been reported in India (Babu et al. 2019), Pakistan (Baloch and Thapa, 2019) and Vietnam (Minh, 2019). The DAs asserted that the implementation costs of the demand-driven approaches are significantly higher than the public funds, and no alternative pathway exists to supply the required finances [DA 40, male]. Also, private funding for designing and executing the new extension services was extremely low because it was not clear how the NAES investments can return noticeable benefits [DA 63, male].

In the absence of private investment, the inadequacy of public funds may impede the operation of many extension services. Financial constraints were exacerbated by physical restrictions. Many extension workers asserted that the unavailability of affordable inputs, physical assets, and infrastructure (such as roads and vehicles) have hampered the development of NAES, imposing high pressure on the DAs.

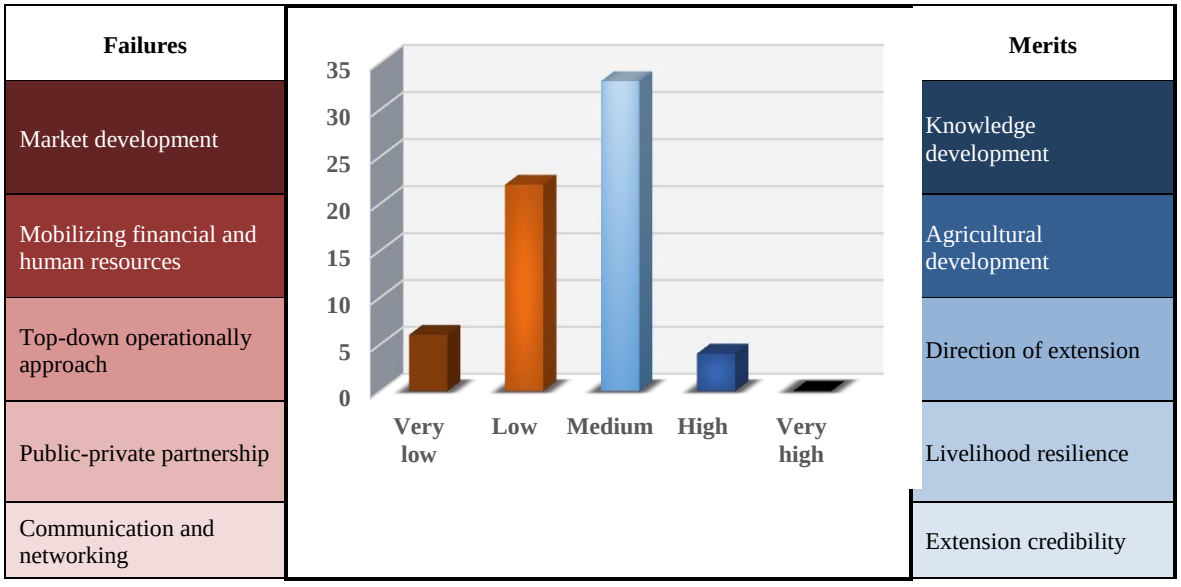

Fig. 2. Perceived usefulnesses and impacts of the NAES

The complexity of policy regulations, mismatches between the agricultural regulatory framework and the other policy sectors (e.g., industry, service, and the natural environment), and the absence of a transparent legislative framework were noted as major constraints to the successful implementation of NAES, in line with the findings of Borremans et al. (2018). Examples of legislative inconsistency were illustrated by some DAs, for example, the price of the crop was significantly lower than that of the input price [DAs 25, and 51].

Another example corresponds to the subsidy programs, which don't comprise any allowance for the conservation of soil and water resources. While no one would pay the financial compensation, NAES motivates farmers to cultivate environmentally sound crops [DAs 3, and 37].

The market structure was noticed as another impediment to the development of NAES, in accordance with the findings of Borremans et al. (2018) and Minh (2019). In the case of economic sanctions, nobody can forecast the prices of agricultural products. Ever-increasing inflation and reduced purchasing power have increased the uncertainty regarding financial returns for farm families. This problem has been intensified by the presence of intermediates in the supply chain of food products, which was associated with unintended disincentives brought out by the government's policies. As an example, many farmers ceased oilseed cultivation because they ensured the government was unable to pay in season [DA 1, male].

Natural problems were also recognized as a major constraint for the effective implementation of NAES. Climate change (i.e., alteration of the rainy season and decrease of annual precipitation) has exacerbated surface and groundwater scarcity in Fars province. The dwindling of irrigation water and poor governance of natural resources (e.g., soil and water) have aggravated the farmers' problems and reduced the effectiveness of extension services [DAs 13, and 56].

Similar to the findings of Lamprinopoulou et al. (2014), the extension agents stated that an information shortage has impeded the NAES's development. Knowledge infrastructure has remained poor, and there are many farm families needing extension support. However, the advisory services could only reach a small portion of the community because of the large geographical area of their responsibility [DA1, male].

While farmer-to-farmer extension approaches or online knowledge and information could enable greater reach, the coverage of these approaches is still limited. The DAs also asserted that the capability of farmers has a significant effect on the NAES's development, in line with the findings of Borremans et al. (2018). To achieve agricultural development under climate change, farmers should obtain more skills and invest time and funding in improving the farm's structure. However, many smallholder farmers found themselves surrounded by vicious poverty and were unable to provide the required resources [DAs 23, and 43]. A small financial buffer was also available for smallholder farmers and low-income families due to collateral requirements and limited repayment [DA 50, male].

Furthermore, the DAs perceived psychological issues as a major constraint for the successful fulfillment of NAES. At the national level, NAES has been considered a reformed and demand-driven approach, but at the district and zone levels, this function has not been properly accepted. Some DAs (e.g., DAs 10, 41, and 43) supposed the NAES as a temporary innovation system with no future potential. As long as the extension workers distrust or doubt the NAES, they have little enthusiasm for initiating systemic change and improving the effectiveness of NAES.

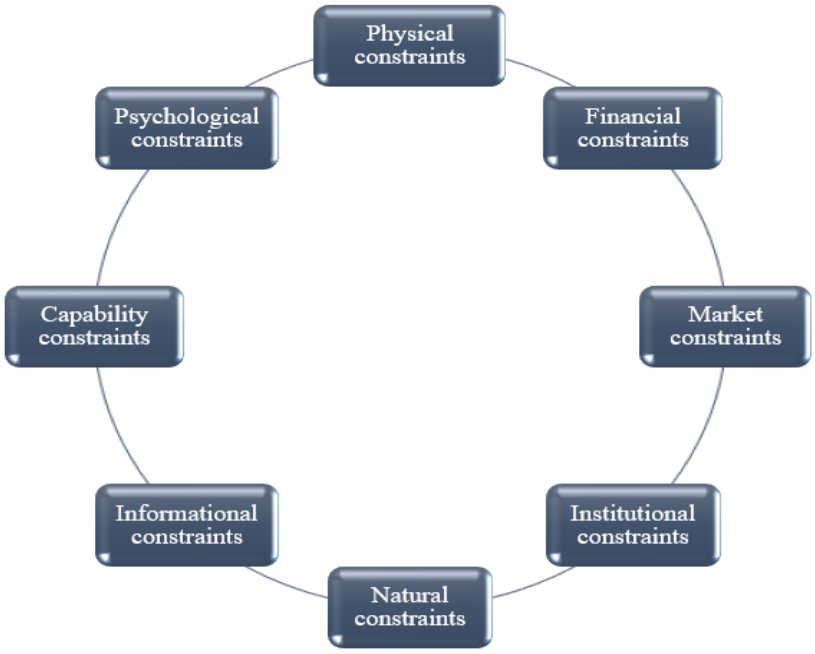

Fig. 3. Impediments of the effective performance of NAES

Conclusions and Policy Implications

The agricultural extension systems of developing countries are often criticized for failing to effectively improve knowledge and information, enhance productivity, and disseminate appropriate technology. Under the conventionally centralized extension systems in such countries, smallholder and resource-poor families have not been equally assisted by advisory services, and their problems have remained unresolved. To effectively address farmers' problems and improve the transformation of an extension system from a poorer to a better state, the government of Iran has designed and implemented the NAES.

Since the NAES of Iran is in a pioneering stage, a qualitative approach was perceived as the most useful tool for addressing the NAES's performance. Accordingly, NAES was found successful in enhancing the availability of extension services for farmers (especially smallholder farmers), increasing the ability of extension workers to quickly respond to the needs of the farmers, improving agricultural productivity, increasing the livelihood sustainability of farm families, and recognizing the NAES as a credible system. However, NAES had failed in terms of facilitating the farmers' access to remunerative markets, mobilizing sustainable financial and human resources, and being entirely demand-driven. Also, the involvement of private sector through more robust partnerships and improved communication has only partially materialized.

To improve the farmers' links to markets and develop value chains, a significant contribution of marketing agents and training of the current extension workers are required. The integration of different types of knowledge could result in significant knowledge and behavioral change. To provide adequate financial and human resources, articulating sets of fund flow at national and provincial levels, hiring well-qualified extension functionaries, and building human resource capacity are strongly needed. To make the NAES completely demand-driven and induce a sense of ownership, relevant stakeholders should be involved with the extension programs from the very beginning. To enhance public-private partnerships, formal and informal links needed to develop, the capacity of input dealers, farm-equipment providers, and agri-clinic operators should be strengthened at the zone level, and the conductive environment needed to create for developer services. Also, NGOs should be encouraged to engage in NAES's processes on the basis of their comparative advantages. Finally, to improve communication, increased application of local radio and television stations, improved utilization of ICT through mobile phones, the development of context-specific portals, and more appropriate internet connections can be helpful.

Maintaining and strengthening the NAES to perform as an effective system also requires a full understanding of the blocking mechanisms. The findings facilitate interaction between rural, regional, and national networks by identifying performance barriers in NAES. The findings of the present study indicated that eight factors have constrained the NAES's development, including financial, physical, institutional, market, natural, informational, capability, and psychological constraints. To ensure the sustainability of NAES, the financial reliance of this reformed system on the government requires to be gradually decreased. Privatization of service delivery and individual agricultural consulting can minimize costs. However, complete privatization (i.e., withdrawing public extension systems) is not possible because of the current socio-economic situation in Iran. Furthermore, agro-companies and well-trained input dealers can deliver advisory services to farm families at the cost of their input sales. To ensure sustainable delivery of extension services, improving physical infrastructure (such as roads) and providing transportation facilities are also needed.

To enhance the convergence of the extension services at national, regional, and provincial levels, harmonization of the NAES plans and programs with national rules, policies, missions, and prescriptions is necessary. Also, to achieve market development goals and reorganize the supply chain, the formation of farmer associations can be useful. Collective action and cooperation through an active and robust farmer association can play a vital role in adjusting price policy, enhancing resilience and adaptive capacity, managing the market economy, and supplying input at affordable prices. Farmer associations or cooperatives can also have their voice in reflecting the farmers' concerns and problems regarding the inequitable allocation of loans and subsidized inputs. Finally, to increase the confidence of extension agents in NAES, continuous and effective monitoring and evaluation of the NAES's performance, outcomes, and impacts, as well as constructive feedback, are needed.

Through an investigation of the merits, failures, and impediments of the NAES, this study provided a comprehensive, multidisciplinary framework for analyzing innovation trends, examining the role of science and technology actors, and their interactions. This helps policymakers and planners at the national, regional, and international levels increase agricultural productivity and profitability and reduce livelihood vulnerabilities by improving the provision of extension services to smallholder farmers. This will ultimately reduce poverty and increase food security.

This study has a number of implications for future research. This qualitative study was conducted in Fars Province, and its findings are contextualized and limited in generalizability. Further qualitative and quantitative studies could be performed in other provinces to obtain an in-depth understanding of the NAES' performance and make several sweeping generalizations about the impediments to its effective performance. Also, this study focused on the perceptions and interpretations of the DAs. Further research could be conducted with the collaboration of farm families to investigate whether their interpretations are in line with those of the DAs of this study.

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عملکرد و بازدارنده‌های نظام نوین ترویج کشاورزی: به‌سوی توانمندسازی کشاورزان خرده‌پا در ایران

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واژه‌های کلیدی:
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چکیده – کشاورزی ابزاری ضروری برای توسعه، فقرزدایی و امنیت غذایی در کشورهای در حال توسعه همچون ایران است. با این حال، کشاورزی کوچک‌مقیاس همچنان در ایران رواج داشته و عملکرد بیشتر محصولات زراعی پایین است. استقرار نظام ترویج کشاورزی کارآمد و دارای طرح‌ریزی مناسب می تواند گذار به سوی کشاورزی مولد، سودآور و پایدار را تسهیل کند اما حاکمیت نظام ترویج کشاورزی فرمایشی در ایران، اکثر کشاورزان خرده مالک و فقیر را از دسترسی به خدمات مشاوره ای محروم نموده و مشکلات این قشر حل نشده باقی مانده است. نظام نوین ترویج کشاورزی در سال ۲۰۱۴ و به‌منظور پاسخگویی بهتر به مشکلات کشاورزان خرده‌پا آغاز به‌کار نمود. با این حال، اثرات نظام نوین ترویج بر توسعه کشاورزی به‌صورتی دقیق مورد واکاوی قرار نگرفته است. بنابراین، این مطالعه با هدف ارزیابی عملکرد نظام نوین ترویج کشاورزی و شناسایی بازدارنده‌های پیشروی این نظام انجام شد. در این راستا، پژوهشی کیفی در استان فارس، جنوب ایران طرح‌ریزی و اجرا گردید. یافته‌ها نشان داد که نظام نوین ترویج کشاورزی توانسته است دسترسی کشاورزان خرده‌مالک به خدمات ترویجی را افزایش دهد، بهره‌وری و سودآوری کشاورزی را بهبود بخشد و آسیب‌پذیری معیشتی را کاهش دهد. با این حال، به دلیل محدودیت‌های مالی، فیزیکی، نهادی، بازار، طبیعی، اطلاعاتی، صلاحیتی و روانی، در تسهیل دسترسی به بازارهای سودآور، بسیج منابع مالی و انسانی پایدار، و تبدیل نظام ترویج به نظامی کاملا تقاضامحور ناکام مانده است. برخی توصیه ها برای بهبود اثربخشی نظام نوین ترویج کشاورزی ارائه شده است.