〔農業水産経済研究　第12号　2012. 3〕

The Challenge of Agriculture in Algeria:
Are Policies Effective?

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Abstract

The objective of this paper is to evaluate Algeria's policies on agriculture from a multidimensional perspective within a historical context. This study showed that the agricultural sector development in Algeria has passed through various phases of policy reform. The first fourth historical phases "Autogestion" policy (1962-1970), "Agrarian Revolution" policy (1971-1979), Initial transition to market economy (1980-1986) and a new farm restructuring (1987-1999) were characterized by failures to enhance agricultural production and food security. Indeed, the policies were characterized by a global, centralized and standardized approach associated with a proliferation of regulations that lacked continuity and efficiency. The last phase National Agricultural and Rural Development Program "PNDAR" (2000-present) has yielded mixed results and despite the latest efforts under the latest program plans, including supporting producers, upgrading farms and extending agricultural land, the agricultural sector has not grown significantly. In fact, the agricultural sector has become an import sector and the country is still vulnerable to food insecurity. Several factors have prevented the implementation of development programs, including land ownership constraints, lack of investment, insufficient access to input, reduced water availability, lack of loyalty among farmers to farm organizations, low levels of education and agricultural training, lack of extension services support, marketing channel constraints, bureaucracy and the slow speed of the grant agreement process. It is now vital that the agricultural development strategy in Algeria must attempt to mitigate the weaknesses and challenges of policy and must implement development priorities for improving production and increasing crop yields. Priority should be given, to the following: improving the legal and regulatory framework of incentives and the extension of agro-ecological resources (land and water); promoting a transparent and secure land market for the exploitation rights to the concession and/or lease of agricultural land for intensive and modern agriculture; implementing an effective system of financing and crop insurance through the strengthening and revitalization of agricultural banks and agencies to ensure greater mobilization of rural savings and credit; enhancing and developing an information system and monitoring activities to improve industry knowledge and performance and orient production to reduce food dependency and expand exports; and improving the system of incentives for agriculture to prioritize targeted agricultural production, especially in the competitive fields, which will contribute significantly to the increase in non-oil exports. Finally, the agricultural development approaches in Algeria should be adaptable and rational. Furthermore, solutions should promote longer-term strategies that take into account the heterogeneity of agriculture.

[Key words] Agricultural policy, Agricultural development, Algeria, Land reform

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Ⅰ Introduction

Agriculture is an important element of rural development in Algeria and is considered one of the major components of the national economy. Agriculture represents 25% of the labor force and contributes approximately 10% of the GDP (Laoubi and Yamao, 2009), compared to less than 5% of the world average and less than 2% in the US. However, Algeria's arable land (useful agricultural area) is limited to less than 3% of its total area, approximately 8.7 million ha (cash crops, forest, pasture, rangelands, scrub and alfalfa land). Other factors also affect Algeria's sustainable development, including desertification, water scarcity, urbanization and demographic pressure. Indeed, the productive land area per capita has dropped by more than 72%, from 0.73 ha per capita in 1962 to 0.20 ha per capita in 2000. This number is expected to reach 0.19 ha per capita in 2010 and 0.17 ha per capita in 2020 (CNES, 2004). The consequences of these factors will be a considerable increase in food import dependency that will have a noticeable impact on the country's food security. Addressing these issues is a high priority for Algerian authorities hoping to achieve agricultural development objectives.

Policy is one of the most important tools in achieving agricultural development goals. Policy refers to the course of action chosen by a government on an aspect of the economy. It includes the goals a government seeks to achieve and its choice of methods to pursue those goals (Ellis, 1996). In Algeria, various agricultural policies have been implemented since the country's independence in 1962. The general purpose of these policies has been to enhance agricultural development and food security in the country. However, it is questionable whether these implemented policies are effective. Thus, the objective of this paper is to evaluate Algeria's policies on agriculture from a multidimensional perspective within a historical context. Based on a literature review, this study discusses critical perspectives on issues and challenges in Algerian agricultural policies and provides suggestions for policy improvement toward sustainable agricultural development. This paper is organized in seven sections that cover the evolution of Algeria's agricultural policy from independence to the present day, primarily on the topic of land reform. It presents a critical discussion on agricultural policy issues, their impact and the accomplishment of policy objectives in each historical stage. Finally, summary remarks are presented in the concluding section.

Ⅱ First period 1962–1970 "Autogestion" policy

After Algerian independence was declared in 1962, most of the fertile farmland was abandoned by colonial farmers, who were replaced by wage laborers. The farmland was amalgamated and converted into a vast "self-managed sector" called "Autogestion" (*Autogestion* is a French word meaning "self-managed farm").

The total land area of the self-managed sector covers more than 2.5 million ha of former colonial land and includes some 2,200 public farms. These farms are characterized by a sharp disparity in the distribution of land, means of production, and yields and by unequal participation in the functioning of the economy. The self-managed sector followed the previous colonial agricultural model, which was based on mechanization and the use of chemical fertilizers. This sector ensured the exportation of agricultural products to international foreign markets (wine, citrus, vegetables, etc.), and its system

of production was extensive (Bourdenane, 1991). The "Autogestion" sector underperformed, with a drop in productivity due to a lack of worker incentives and excessive bureaucracy (CNES, 2000). The state controlled management, operations, distribution, and market prices (Bourdenane, 1991). The sector has since absorbed most of the available credit and operated at a loss, and it has become a state-run venture (Ageron, 1991).

The private sector, estimated to be 5.4 million ha, has been completely ignored by the various agricultural policies and development plans. These lands are generally of lower quality or are located in difficult areas, which explain their non-appropriation by the colonial farmers.

Ⅲ Second period 1971–1979
"Agrarian Revolution" policy

The government launched the agrarian revolution with another policy called "agrarian reform cooperatives". This policy was applied to expropriate large private holdings held in absentia and to redistribute the land to poor and landless peasants (Aghrout *et al.* 2004). All means of production, investments and equipment were oriented to the "socialist sector" under the agrarian revolution (including the self-management sector). Conversely, the private sector continued to be marginalized (Bourdenane, 1991). The socialist sector was characterized by low productivity and low efficiency in land use due to the lack of incentives for farmers in the cooperative sector to increase production (Cleaver, 1982). Furthermore, the absence of institutional support such as extension, agricultural training, and technical innovations resulted in minimal improvement (Bessaoud, 2004). During this period, the economic development system adopted in Algeria was centered on strong industrialization, seen as the way that other sectors of Algeria's economy would be developed. Consequently, large investments had to be granted to this sector. From 1970 to 1977, 55% of the total public investments were centered in the fields of industry, mining, energy and hydrocarbons, while agriculture received only 8% of the total (Chemingui, 2003).

Ⅳ Third period 1980–1986
Initial transition to market economy

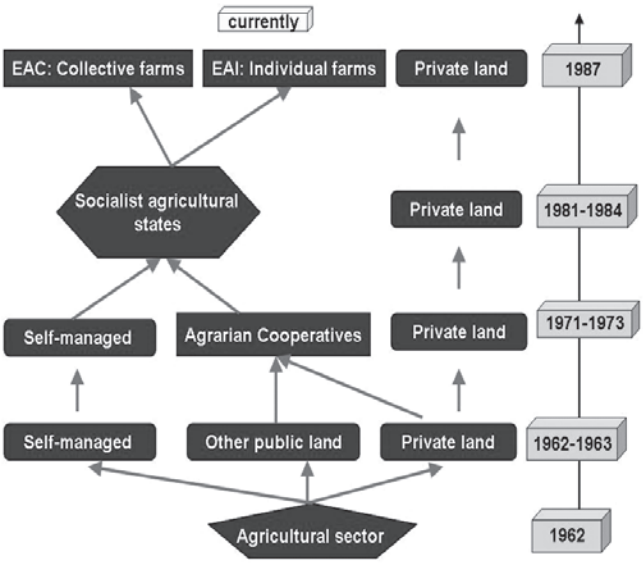
The fragmentation of the agricultural sector into three sub-sectors, private, self-managed and agrarian revolution, has complicated the development of agriculture as whole. The chronic stagnation of agricultural production has been caused primarily by the absence of a coherent agricultural policy that takes into account the specificities of these sub-sectors (Benoune, 1988). After observing the increased Algerian dependency on agricultural imports (Cleaver, 1982), the government decided to prioritize the revitalization of the agricultural sector. In 1981, sector control was decreased through an increase in private land ownership. The reform granted access to property and merged the self-managed farm units and the agrarian reformed cooperatives into a single state sector called the Socialist Agricultural States (3,200 DAS in total). The goal was to establish economically viable and easily manageable production units (Aghrout *et al.* 2004). These operations were accompanied by supportive measures such as decreased control of the marketing network, increased producer prices, the provision of credit to both state and private sectors, and access to subsidized capital (Aghrout *et al.* 2004). This period was the beginning of transition to a market economy and encouragement of the

private sector and a gradual withdrawal of the state from the organization and functioning of the Algerian agricultural system.

V Fourth period 1987–1999
Economic crisis and difficult transition: A new farm restructuring

In 1987, Algeria began taking major steps towards the economic transformation of the agricultural sector. The state farms were dismantled and transformed into collective state farms (22,356 EAC farms) and individual state farms (5,677 EAI farms) consisting of at least three individual farms. In 1990, the state restituted the nationalized land of the agrarian revolution to its former owners (under decree 90–25 of November 18, 1990). The new system resulted in higher production as early as 1988. The authorities' concern with improving agricultural production to prepare the country for "life after oil" was found in the 1985–89 plan (CNES, 2000). The plan allocated higher percentages of public funds to the agricultural sector, especially water projects. Investment in such projects rose from 10% of the total budget in 1985 to 14.5% in 1990, and the government announced its intention to add 20,000 irrigated hectares a year. Another important step was the liberalization of agricultural markets. A 1988 decree allowed private farmers to purchase inputs from any suppliers they chose. As of April 1991, individuals and farm cooperatives could engage in wholesale trading in agricultural inputs, and they were authorized to import agricultural inputs at the official rate of exchange (CNES, 2000). Another law, promulgated in 1991, deregulated land transactions and eliminated the municipalities' monopoly ownership of property reserves, making them available for public purchase. However, this restructuring event was followed by a series of measures intended to stabilize the economy and promote structural adjustment (supported by the IMF). The steps included the elimination of all input and product subsidies (except for wheat and milk production) coupled with a strong devaluation of the Algerian currency (Bedrani, 2005). Consequently, this period is characterized by a significant decrease in the volume of investments, low mechanization, a sharp

Figure 1: Summary trend of land reform in Algeria



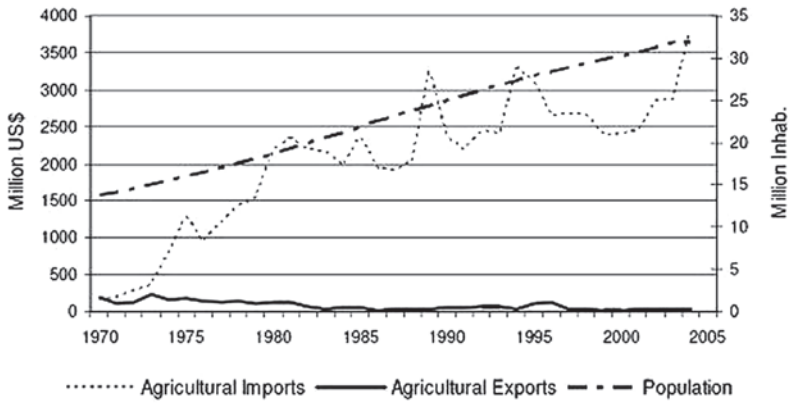
reduction in the purchase of agricultural consumables (particularly fertilizers and pesticides), the diversion of agricultural land to other uses, the development of speculative farming, and the expansion of illegal practices, including sales of farmland and land subdivisions between members of the collective farms (Bedrani, 1995; CNES, 1996; CNES, 2000; Laoubi and Yamao, 2009).

Ⅵ Fifth period: 2000-present
National Agricultural and Rural Development Program PNDAR: An unachievable transition

In 2000, the Algerian government launched the National Agricultural Development Program (PNDA). The PNDA evolved to include a rural dimension in 2002 and became the National Agricultural and Rural Development Program (PNDAR). The new agricultural policy objectives included the development and modernization of farms, the intensification and expansion of irrigated areas, the development of agricultural production and productivity through substantial investments and the appropriate and sustainable use of natural resources. The PNDA was accompanied by supporting measures such as supervision, follow up, evaluation, and technical guidance from extension services (Laoubi *et al*, 2010). The PNDAR was designed to be a comprehensive and coherent response to the primary challenges and constraints of the natural, technical, organizational and institutional problems responsible for weakening the basics of national food security, degrading natural resources and reducing cohesion and social peace in rural areas, which are essential for Algerian society (MADR, 2007). Under the Support Plan for Economic Recovery (PSRE), $1.7 billion during 2001–2004 and $7.1 billion (under the Complementary Plan for Economic Growth Support (PCSC)) during 2005–2009 were allocated to the agricultural sector.

The PNDAR programs have yielded mixed results. Since the application of the PNDA, Algeria's agricultural sector has recorded significant growth of 6.5% on average, whereas the growth rate between 1990 and 2000 was only 4%. Nevertheless, until the early 1970s, the agricultural sector was an export sector to the extent that exports represented between 20% and 30% of total agricultural production. This trend was quickly reversed, and agricultural exports continue to fall. Currently, only 0.1% of agricultural production is exported. Consequently, the agricultural sector has become an import sector (see figure 2). The import of agricultural products, particularly basic products such as

Figure 2: Trade in agricultural products (1970–2005)



Source: The Ministerial Conference on "Water for Agriculture and Energy in Africa: the Challenges of Climate Change", 2008

wheat and milk, has consistently increased to satisfy the increasing demands of the population.

In terms of the population's food needs, despite improvements, the food coverage rate per capita is far from satisfactory. As shown in the table 1 below, Algeria has achieved self-sufficiency in agricultural production for several products. However, coverage of the need for basic agricultural products such as wheat and milk remains unsatisfactory, at 35% and 42%, respectively. Algerians' need for wheat is estimated at 60 million quintal (1 quintal =100 Kg), whereas the local production is approximately 30 million quintal. These figures clearly demonstrate the country's food vulnerability.

In terms of agricultural employment, it has increased significantly since the PNDA was implemented; between 2000 and 2004, it increased by 120%. The PNDA has created more than 900,000 jobs, according to national agricultural statistics. However, it should be noted that the percentage of agricultural labor in the total labor force has continuously declined, from 64% in the 1970s to 56% in the 1980s and 45% in the 1990s. In the last 10 years, agricultural labor has ranged from 24% to 25%.

Table 1: Food needs coverage by product

Product type	1999 (%)	2004 (%)	2008 (%)
Wheat and wheat derivatives*	32	34	35
Milk and milk derivatives*	39	41	42
Pulse	25	26	30
Meat	80	89	100
Potato	88	94	100
Industrial tomato	100	100	100
Sugar, Tea and Coffee	0	0	0

* Strategic product
Source: Ministry of agriculture and agricultural statistics

In terms of agricultural investments, we note that the financing of agriculture has experienced two periods. The first period, prior to 1999, was characterized by low expenditure of the state budget for agriculture because agricultural subsidies were reserved for income support, especially support for producer prices. The second period began in 2000. Considerable investment has been made to fund the national plan for agricultural development. Under the PNDA plan, government support to the agricultural sector is approximately 3% of the total value of agricultural production to investment and approximately 1% to price-based support. However, this rate remains very low in relation to the rate of 10% allowed by the WTO and compared with the rates in developed countries. The total support for agriculture exceeds 30% in EU countries and 60% in Switzerland, even though the agricultural sector in the EU and Switzerland accounts for only 1.6% and 1.5% of the GDP and employs only 5% and 4% of the population, respectively. Between 2000 and 2006, the total support for investment under the PNDA plan amounted to DA 284 billion (nearly $4 billion), representing an annual average of DA 40.5 billion and an estimated investment of 66 euros per ha/year. This figure contrasts with the support to European farmers, which is estimated to be more than 280 euros per ha/year-four times greater than the support for Algerian farmers.

The PNDA policy has several shortcomings at the farm level. Several studies conducted in various agricultural areas, including irrigation schemes (Laoubi and Yamao, 2008; Laoubi and Yamao,

2009; Laoubi and Yamao, 2011), have shown that the policy of modernizing farms was selective and affected few farmers. The policy also suffers from a lack of transparency and fairness in state aid for different categories. State support is not adapted to the farmers' situations, and the farmers have not been involved in organizing this support. Several factors have prevented the implementation of development programs, including ownership constraints, lack of credit, lack of investment, insufficient access to input, reduced water availability, lack of loyalty among farmers to farm organizations, low levels of education and agricultural training, lack of extension services support, marketing channel constraints, bureaucracy and the slow speed of the grant agreement process.

Ⅶ Conclusion

This study showed that the several policy reforms that have been undertaken to improve the performance of agriculture have been limited and largely unsuccessful. The primary objective of the various policies was to achieve macroeconomic balance. The policies were characterized by a global, centralized and standardized approach associated with a proliferation of regulations that lacked continuity and efficiency.

The challenges facing Algerian agriculture are becoming increasingly complex. Despite the latest efforts under the PNDA plans, including supporting producers, upgrading farms and extending agricultural land, the sector has not grown significantly. The problems of landownership, such the status of public lands (EAC and EAI), are considered barriers to investment. This is especially true where the landowners maintain distrust toward the administrative authorities and, in some regions, are responsible for illegal sales of agricultural lands, in violation of the decree of land law no. 87-19 of December 8, 1987.

The agricultural development strategy in Algeria must attempt to mitigate or eliminate the weaknesses and challenges of policy and must implement development priorities for improving production and increasing crop yields. Furthermore, agricultural development strategy must include the following objectives:

- Improve the legal and regulatory framework of incentives and the extension of agro-ecological resources (land and water);
- Promote a transparent and secure land market for the exploitation rights to the concession and/or lease of agricultural land for intensive and modern agriculture;
- Implement an effective system of financing and crop insurance through the strengthening and revitalization of agricultural banks and agencies to ensure greater mobilization of rural savings and credit, thus promoting agriculture in conjunction with economic agricultural insurance;
- Enhance and develop an information system and monitoring activities to improve industry knowledge and performance and orient production to reduce food dependency and expand exports;
- Improve and revitalize the foundations of the system of training-research-extension for farmers, research institutes and universities as a means to develop the foundations of a sustainable revitalization of agricultural production;
- Improve the system of incentives for agriculture to prioritize targeted agricultural production, especially in the competitive fields, which will contribute significantly to the increase in non-oil exports;
- Encourage the progressive rehabilitation of consumption patterns to reorient them toward the local production and availability of certain basic agricultural products, such as pulses, barley, and potatoes,

consequently reducing the share of wheat.

In agriculture, there is no single correct answer. Approaches should be adaptable and rational because agriculture is the science of locality. Solutions should promote longer-term strategies that take into account the heterogeneity of agriculture (Laoubi and Yamao, 2009). The modernization and development of agriculture in Algeria may not be completely successful until the different entities involved share compatible objectives. Accepting and supporting diversity is a better approach to the future than concentrating on uniformity.

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