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# Assessment of Guneid Sugar Factory social impacts

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## ABSTRACT

Sugar is one of the most important and oldest commodities in the world. In the Sudan, there are two types of sugar estates; public and private. Sugar industry in the Sudan is one of the important and effective industries for the Sudanese economy. In addition, sugar cane production schemes in the Sudan are very effective with regard to community development and wealth distribution. The objective of this study was to assess the social impacts of Guneid Sugar Factory which is a public and first sugar factory in the Sudan. Like other sugar factories, Guneid Sugar Factory has a significant role in the Sudan economy, as well as in the social development of the area. This factory differs slightly from all sugar factories in Sudan, because it operates by tenants who belonged to Gezira Scheme before the establishment of the factory. The study used primary data through a questionnaire with a random sample from Guneid tenants and used descriptive statistics for analysis. The study showed that the scheme substantially contributed to the establishment of schools, health centers, hospitals, provision of electricity, healthy drinking water and increased the income of inhabitants. The study concluded that, Guneid is providing excellent social services that have apparent contribution to the improvement of the livelihood of the communities.

## INTRODUCTION

Sugar cane is one of the oldest crops known. It dates back to more than 800 years (Elhassan, 2009). The production of sugar depends on sugar cane and sugar beet. The former, accounts for 78% while the later accounts for 22% (AOAD, 2008).

Sugar cane cultivation in the Sudan began in 1962 with the establishment of Guneid Sugar Factory, with a total area of 20,000 feddan and annual designed capacity of 60,000 tones of cane sugar (Ismail, 2006). The objective of this factory was to satisfy part of the local demand for sugar as well as diversification of crop production and contribute in the social development and welfare of the area (Elhajwa, 2000).

This area previously produced cotton under the management of Sudan Gezira Board where, land, irrigation water and labor were available and no need for additional infrastructure for sugar cane production. These factors were behind the success of Guneid Sugar Factory**.**

The tenants production relations at Guneid Sugar Factory differed slightly from those adopted in the Gezira Scheme (Hassabelrasoul, 2008). The arrangement in the Guneid Sugar Factory is that the sugar estate carries out most of the mechanical and labor-intensive operations with the exception of irrigation, manual weeding and manual fertilization. After the harvest, the tenants are paid on the basis of cane sugar yield (Malick, 1985). The authorities and the tenants union ahead of time agree upon the price. The costs of operations and any other charges are deducted from the revenues of tenants before any formal settlement is made (Guneid Sugar Factory, 2008). There are 2500 tenants resident in 28 villages and two towns (Rufaa and Hillalia) around the factory. The average income of tenants is about 10-12 thousand SDG per year. They did not have this income when they were with the Gezira Scheme working as cotton tenants. This high income is reflected in their welfare and life patterns. The objective of this study was to assess the social impacts of Guneid Sugar Factory.

## MATERIALS AND METHODS

### Sources of data

Primary data were used to achieve the stated objectives. Guneid Sugar Factory accommodates about 2500 tenants. A field survey using a structured questionnaire was conducted to collect the required data from Guneid Sugar Factory tenants.

### Selection of the sample

A random sample of 50 tenants was chosen from each group making a sample of 150 tenants to represent 6% of the tenants of Guneid scheme. The population is considered homogeneous. To avoid bias, the sample tenants have been taken from all agricultural groups namely: South, North, and Guneid Extension.

### The questionnaire

The study used a structured questionnaire to obtain the information from the respondents. The information obtained consisted of the following: i) social information which consisted of age, education, marital status of the tenants and their family sizes; and ii) economic information which includes housing, assets owned by tenants and means of transportation.

### Methods of analysis

Simple and descriptive statistics was used to derive some indicators that reflect the social services provided by Guneid Sugar Factory and have contributed to the improvement of the livelihood of the communities**.**

## RESULTS AND DISCUSSION

### The social characteristics of Guneid tenants

### Tenants' age

The age of tenants ranged from 25 to 66 years with an average of 60 years, but the majority of the sample (72.7%) was more than 50 years. This indicates that there are still tenants from the Gezira scheme are owning sugar cane holdings (Table 1).

Table 1. Age group of Guneid' tenants.

| Age (years) | Number of tenants | Percent |
|---|---|---|
| 25-50 | 41 | 27.3 |
| 51-65 | 53 | 35.3 |
| 66 and over | 56 | 37.4 |

Source: Author’s computation

## Education

Results showed that illiteracy levels is very low (2.7%), and that most of the tenants fall between Khalwa and intermediate school level (59.3%). However, of the total tenants, 22.7% and 15.3% had high school and university education, respectively. This positive situation is a good indication because educated people are more responsive to new technologies. The majority of the tenants (72.6) agreed that the scheme has positively improved their educational level (Table 2).

Table 2. Tenant's education.

| Education | Number of tenants | Percent |
|---|---|---|
| Illiteracy | 4 | 2.7 |
| Khalwa and primary school | 75 | 50 |
| Intermediate school | 14 | 9.3 |
| High school | 34 | 22.7 |
| University | 23 | 15.3 |

Source: Author's computation.

## Marital status

The family size range from 3 to 15 with an average of 7 persons. The majority of the tenants are married (98%) and only 2% are not married (Table 3 -4). Very few tenants have more than one wife.

Table 3. Tenants family size.

| | Minimum | Maximum | Average | Standard deviation |
|---|---|---|---|---|
| Family size | 3 | 15 | 7 | 3.6 |

Table 4. Tenants marital status.

| Marital status | Number of tenants | Percent |
|---|---|---|
| Married | 147 | 98 |
| Not married | 3 | 2 |

Source: Author's computation**.**

## The education of tenants' families

The level of education within the tenants' family is very good. The majority of the tenants' sons and daughters have high school and university education (76%) and some of the tenant's family members (10%) have postgraduate education while 14% of them have just primary education (Table 5). It is worth noting that unemployment between the tenants' families is very high and as a result, about 45% of them work with their fathers in tenancies.

Table 5. Tenants families' education.

| Family members education | Number | Percent |
|---|---|---|
| Primary education | 21 | 14 |
| High and university education | 114 | 76 |
| Postgraduate education | 15 | 10 |

Source: Author's computation.

**Contribution of the scheme in the social structure of the residents' family houses.**

Unlike those who live in Ruffaa and Hilalia cities, the majority of the tenants (74%) especially those who live in the country side acknowledged that the scheme had played a great role in improving their communities and contributed a lot in establishing schools, health centers, hospitals, clubs, digging wells for healthy drinking water and provision of electricity and road services. They also cited that there is a real change in their livelihood as a result of the development services provided by the scheme administration. In this respect, the majority of tenants (86%) changed their houses from mud to red bricks and 10.7% changed from red bricks to concrete as a result of increased income. Other services such as drinking water, electricity, paved roads and the use of electric appliances such as refrigerators, TVs, electric iron and other devises have contributed to the welfare of the community in this area (Table 6).

Table 6. Social structure of the family houses.

| Type of house change | Number of tenants | Percent |
|---|---|---|
| From mud to red Brick | 129 | 86.0 |
| From red Brick to concrete | 16 | 10.7 |
| Others | 5 | 3.3 |

Source: Author's computation.

**Assets owned by Guneid Sugar Factory tenants.**

The majority of the tenants owned refrigerators, and TVs. In addition, 50% of them owned animals, 34.7% owned cars, 18.7% owned other locomotives (bicycle and motorcycle),and very few(2.7%) owned agricultural machines.

Table 7. Assets owned by Guneid sugar cane tenants.

| Type of asset | Number of tenants | Percent |
|---|---|---|
| Car | 52 | 34.7 |
| Tractor, or other agricultural machine | 4 | 2.7 |
| Refrigerator and TV | 130 | 86.7 |
| Bicycle, motorcycle | 28 | 18.7 |
| Animals | 76 | 50.7 |

Source: Author's computation.

**Means of transportation to tenancies**

The recent economic status of the tenants has affected the means of reaching their tenancies. Appreciable number of tenants used cars (29.3%), 4.7% of them used motor cycles and 4.7% used bicycles, to and from their tenancies. Nevertheless, more than 60% of them continued using the traditional means of donkeys or on foot (Table 8).

Table 8. Means of transportation.

| Means of transportation to tenancies | Number of tenants | Percent |
|---|---|---|
| Cars | 44 | 29.3 |
| Motorcycle | 7 | 4.7 |
| Bicycle | 7 | 4.7 |
| Donkey and on foot | 92 | 61.3 |

Source: Author's computation**.**

## CONCLUSION

The contribution of the scheme in improving the livelihood of the communities is well acknowledged. The scheme contributed to the establishment of schools, health centers, hospitals, provision of electricity, road services and healthy drinking water. This is in addition to creation of new working opportunities as a result of increased income of the inhabitants.

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# تقييم الأداء الاجتماعي لمصنع سكر الجنيد

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## الخلاصة

محصول السكر من أقدم وأهم المحاصيل في العالم. يوجد في السودان نوعين من شركات السكر هما الخاصة والعامة. الهدف من هذه الدراسة هو تقييم الأداء الاجتماعي لمصنع سكر الجنيد. اختارت الدراسة أحد شركات القطاع العام وأول مصنع للسكر تم إنشاؤه بالبلاد عام 1962م لإنتاج 60.000 طن من السكر وقد لعب هذا المصنع مثل بقية المصانع دور مهم في اقتصاد السودان والتنمية الاجتماعية في المنطقة المحيطة به. ويختلف هذا المصنع عن كل المصانع الموجودة في السودان بأنه يعمل بواسطة المزارعين الذين كانوا يتبعون لمشروع الجزيرة قبل إنشاء مصنع السكر. تم جمع المعلومات الأولية لهذه الدراسة عن طريق الاستبيان من عينة عشوائية من مزارعي مشروع الجنيد. استخدمت الدراسة التحليل الإحصائي الوصفي لتحليل المعلومات الأولية. أوضحت الدراسة أن للمشروع إسهامات مقدرة تتمثل في إنشاء المدارس والمراكز الصحية والمستشفيات وإدخال الكهرباء ومياه الشرب النقية وزيادة الدخل لسكان المشروع. خلصت الدراسة إلى أن مصنع سكر الجنيد قدم خدمات اجتماعية متميزة ساهمت بصورة واضحة في تحسين سبل العيش للمجتمعات المحيطة.