# Effectiveness of the budget allocated to agricultural and food economies, and rural areas under the CAP: financial and economic analyses perspectives

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#### Abstract:

The economies which achieved self-sufficiency in staple foods face challenges in rural development besides securing access and utilization of foods. Agricultural and trade policies in the European Union have a significant orientation for safeguarding producer welfare with the name of food security and multi-functionality of agriculture. When we consider multi-functionality of agriculture, benefits and costs of the individual policies need to be properly evaluated through financial and economic analyses. This study shows that social inclusion of vulnerable groups in the labor market creates positive benefits to the society.

We would argue that <u>under certain conditions social inclusion of vulnerable groups in the labor market can lead to sustainable agricultural and rural development. Agriculture has a function to create additional social benefits beyond the conventional function to provide food to the population. Proper valuations of the benefits from multi functionality of agriculture are needed when we discuss the future directions of the CAP beyond 2020.</u>

Social firms operate as profit seeking enterprises, providing equal working opportunities for mentally and physically handicapped persons, and minimizing receiving subsidies from the governments. At least 30 % of workers are handicapped persons.

The revenue from production activities exceed 50% of the total revenue. The supports from the government should be less than 50% of the total revenue.

Advanced cases are observed Italy and Korea.

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Social firms are the business entities that contribute to social inclusion of vulnerable groups in the labor market. They employ more than 30 percent of their labor force from the group of physically and mentally handicapped persons who are receiving financial assistance from the public sources. Social firms pay for the fair shares to the workers from the profits they make. They also pay for business taxes from profit they make. Social firms encourage handicapped persons to be independent from financial dependence on public welfare programs. The agricultural production work is considered medium level physical work. Through the health improvement effects, medical costs paid by private and public sources are supposed to decline. Social firm activities are considered to increase social benefits and to reduce social costs associated with agricultural production activities done through regular welfare programs.

As an effort to materialize an integrated society, the enterprises with more than 50 employees need to hire at least one employee with disabilities for every 50 employees in Japan. This 2 % rule is further advanced to be 2.2 % rule from April 1, 2018. Some corporations set up special entities for the employees with disability to work to meet with the employment quota. Some corporations just pay penalties not to bother with the rules. The penalties are not as high as the cost for setting up special entities.

Agricultural production work is considered suited for the physically and mentally handicapped persons as the work is not monotonous work in production lines found in the manufacturing sector. Many social welfare service entities have been involved in agricultural and food production activities in Japan as part of supports for the handicapped persons to get working opportunities. The government is subsidizing the operation as employment support for the vulnerable groups in the labor market.

- Social inclusion of the vulnerable groups in the labor market is a national goal for achieving an integrated society. The vulnerable groups in the labor market include the people with physical and mental disabilities, youth without skills, elderlies, women who cannot work full-time because of household work.
  - The agricultural and food products prepared by social firms have public good attributes. Social firms can receive premium prices in the market. Consumers are willing to pay for the agricultural and food products produced by social firms.

Scarcity of agricultural labor exists in Japanese agriculture. Despite of the existence of much abandoned land, agricultural land market is protected and not liquid. Entry to agricultural production activities is not easy because of limited availability of land resources for new entrants. Social firms that are in agricultural activities can make good use of abandoned land. Rural infrastructure can be better managed with the help of social firms.

### Benefit and cost components

	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
A gricultural revenue for social welfare service entity	80	80	80	80	80	80	80	80	80	80	80	80	80
A gricultura l revenue for socia l firm s	130	130	130	130	130	130	130	130	130	130	130	130	130
M aterial cost	20	20	20	20	20	20	20	20	20	20	20	20	20
Labor cost (w ages)	50	50	50	50	50	50	50	50	50	50	50	50	50
Land rent	10	10	10	10	10	10	10	10	10	10	10	10	10
Production cost for social welfare service entity	30	30	30	30	30	30	30	30	30	30	30	30	30
Production cost for social firm	100	100	100	100	100	100	100	100	100	100	100	100	100
M dical costs paid from the budget	30	30	30	30	30	30	30	30	30	30	30	30	30
ocial welfare payment by the government	100	100	100	100	100	100	100	100	100	100	100	100	100
Business taxes paid by social firm	20	20	20	20	20	20	20	20	20	20	20	20	20
Prevention of flood ing value	10	10	10	10	10	10	10	10	10	10	10	10	10
Keeping landscape values	10	10	10	10	10	10	10	10	10	10	10	10	10

#### Benefit and cost estimates

	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
Social benefit for social we lfare service entity	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Social cost for social w e Ifare service entity	160	160	160	160	160	160	160	160	160	160	160	160	160	160
Social benefit for social firm s	170	170	170	170	170	170	170	170	170	170	170	170	170	170
Social cost for social firm s	80	80	80	80	80	80	80	80	80	80	80	80	80	80

- The table shows simulation results from a benefit and cost study to examine the conditions where social firms can be financially and economically feasible to sustain their operations in agricultural production activities.
- A case of work place consisting of the worker with disability and non-disability is considered. Future revenues that social firms are generating are considered to be from agricultural production. The agricultural production outputs are sold in the market. Some outputs are processed and sold. The case of social firms is compared against the case of social welfare service entities involving in agricultural production activities.

#### Simulation results

Financial for social service er	welfare		Economic analysis for social welfare service entity	
Present v future stre revenues		931	Present value of future stream of revenues	1163
Present v future stre		329	Present value of future stream of costs	1862
Net prese of future of profits	stream	602	Net present value of future stream of profits	-698
Financial for social			Economic analysis for social firms	
Present v future stre revenues		1,393	Present value of future stream of revenues	1,978
Present v future stre costs		1,163	Present value of future stream of costs	931
Net prese of future of profits		229	Net present value of future stream of profits	1,047

## Financial analysis of a social welfare service entity

A financial analysis to examine the private benefit-cost relations is conducted first. The revenue from agricultural production by a representative social welfare service entity is set as 80 every year. Production cost consists of material cost of 20 and land rent of 10. Wage is paid from the subsidy from the government. Assuming that the discount rate is .03, the present value of future stream of revenues is 931. The present value of future stream of costs is 329. The net present value of future stream of profits is 602.

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### Financial analysis of a social firm

The revenue from agricultural production by a representative social firm is set as 130 every year. This is higher than the case for the social welfare service entity reflecting the existence of higher willingness to pay by consumers. Production cost consists of wage of 50 besides the material cost of 20 and land rent of 10. No government support is provided. The social firm pays for business tax for the profit they make. Assuming that the discount rate is .03, the present value of future stream of revenues is 1393. The present value of future stream of costs is 1,163. The net present value of future tream of profits is 229.

# Economic analysis of a social welfare service entity

An economic analysis to examine the social benefit-cost relations is conducted next. The revenue from agricultural production by a representative social welfare service entity is set as 80 every year. Prevention of flooding value of 10 and keeping landscape value of 10 are added as revenues for the society created by the agricultural production activities of the social welfare service entity. Production cost consists of material cost of 20 and land rent of 10. Medical costs of 30 and social welfare payments of 100 paid from the government budget are considered as part of social costs. Wage is paid from the social welfare sources. Assuming that the discount rate is .03, the present value of future stream of revenues is 1,163. The present dlue of future stream of costs is 1,862. The net present value of ture stream of profits is a negative number of -698.

### Economic analysis of a social firm

The revenue from agricultural production by a representative social firm is set as 130 every year. This is higher than the case for the social welfare service entity reflecting the existence of higher willingness to pay by consumers. Business tax payment of 20 by the social firm besides prevention of flooding value of 10 and keeping landscape value of 10 are added as revenues for the society created by the agricultural production activities of the social firms. Production cost consists of wage of 50 besides the material cost of 20 and land rent of 10. No government support is provided. The social firm pays for business tax for the profit they make. Medical costs of 30 and social welfare payments of 100 paid for the social welfare service entity from the government budget are not poid as the potential recipients now earn wages and pay for the medical and other living costs out of received wages. Assuming that the discount rate is .03, the present value of future stream of revenues is ,978. The present value of future stream of costs is 931. The net present value of future stream of profits is 1,047.

#### Conclusion and policy implications

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The social firms that are involved in agricultural production activities could improve the net present value of future stream of social surplus while maintaining the net present value of future stream of private surplus positive. Since their agricultural production activities could create positive surplus to the society, the government has a good reason to formally support agricultural production activities by social firms. This leads to sustainable agricultural and rural development through effective use of rural infrastructure of land and water, and conservation of rural natural environment. his dimension of efforts should be included when the AP beyond 2020 is discussed.