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ANALYSIS OF COLLABORATIVE GOVERNANCE STRATEGY OF THREE PILLARS OF STAKEHOLDERS IN ADDRESSING FOOD SECURITY PROBLEMS IN BANDAR SRIBAWONO AREA EAST LAMPUNG

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Abstract

This study aims to investigate the collaborative governance strategy carried out by head of the Bandar Sribawono district government East Lampung, head of Bandar Agung village government, head of Hamlet 18 and 19, Farmer Group Association (Gapoktan) of Hamlet 18 and 19, Bhayangkara Community Security and Order Supervisor (Bhabinkamtibmas) of Bandar Sribawono Police sector, and the private sector in overcoming the problem of food security for corn commodities. Collaborative governance as collaboration is a relationship designed to solve problems in this case problems that arise due to food security activities. These problems include: availability of seeds, fertilizers, pesticides, land fertility, wage workers, agricultural technology, weather, and agricultural human resources. Through effective collaboration, it is expected to be able to maintain food availability, food access, and food utilization which have become national agendas. The research method used is a qualitative method that focus on descriptive analysis. This qualitative method is to describe how collaboration is carried out to overcome food security problems. Data were collected through interviews with the stakeholders. The results of the study show that: collaborative governance is carried out effectively, routinely, and measurably and has succeeded in overcoming the problem of food security for corn commodities, such as: 1) availability of sufficient quantities of superior hybrid corn seeds NK (Northrup King) Sumo; 2) sufficient subsidized fertilizers such as Urea and NPK Phonska are available; 3) sufficient non-subsidized pesticides such as Emacell, Prevathon and Sapporo are available; 4) land degradation and land salination do not occur; 5) land processing still requires a relatively large number of hired labor; 6) modern agricultural technology has not been implemented; 7) weather does not affect corn planting patterns; and 8) agricultural human resources are available in the form of active agricultural extension workers and food security assistance from Bhabinkamtibmas.

Keywords: collaborative governance, food security of corn commodity, Bandar Sribawono, qualitative method, descriptive analysis

INTRODUCTION

Due to its location on the equator, Indonesia has fertile and vast green open land (Wibowo, 2018). The wealth of natural resources, the vast land is utilized to produce food and meet the food needs of the community (Fikriman *et al.*, 2020). In relation to food production, the government has formulated a national strategic program, namely food security. Food security is an aspect that ought to be considered, especially when population growth and agricultural land degradation are expanding.

Food security could be a condition where food is satisfied for the country and people, which is reflected within the accessibility of adequate food, both in amount and quality, secure, assorted, nutritious, equally conveyed and reasonable and does not strife with the religion, convictions and culture of the community, to be able to live healthily, effectively and profitably in an economical way. Law No. 7 of 1996 concerning Food Jo. Law No. 18 of 2012 emphasizes that increasing food security is a shared responsibility between the government, private sector and the community which is developed through the household level. Food provision is organized to meet the needs of household food consumption that continues to grow over time. Problems that can hinder Indonesia's food security program are caused by, among others: 1) low land area and food production due to land degradation; 2) conflicts of interest in land use and land conversion have an impact on food availability in an area (Pujiati *et al.*, 2020).

Lampung is one of the national food barns, especially corn barns, ranking 6th as a national food producer. Lampung targets food self-sufficiency in 2027, but there are challenges that must be resolved, including: 1) shrinking agricultural land; 2) suboptimal distribution; 3) poor irrigation; 4) monopoly on rice prices. Way Kanan regency utilizes around 28,883 hectares of land actively used for corn cultivation with a productivity of more than 100 tons/year. North Lampung regency utilizes 40,629 hectares of land for corn cultivation with a productivity of more than 200 tons/year. Central Lampung regency with 78,106 hectares produces more than 400 tons of corn/year. South Lampung regency with 128,034 hectares produces more than 600 tons of corn/year. Meanwhile, East Lampung regency with 141,879 hectares (the largest compared to the other 4 regencies) is able to produce more than 700 tons of corn/year (BPS Lampung Province, 2025). East Lampung regency with 17 sub-districts, there are 4 sub-districts whose land area, production, and productivity of corn plants exceed other sub-districts, namely: 1) Marga Tiga sub-district with a land area of 12,392 ha, production of 59,271 tons, and productivity of 4,783 tons/ha; 2) Sekampung Udik sub-district with a land area of 14,727 ha, production of 82,221 tons, and

productivity of 5,583 tons/ha; 3) Marga Sekampung sub-district with a land area of 23,397 Ha, production of 133,363 tons, and productivity of 5,700 tons/ha; and 4) Bandar Sribawono Sub-district with a land area of 36,122 Ha, production of 205,173 tons, and productivity of 5,680 tons/ha (BPS Lampung Province, 2025).

This study conducted to analyze collaborative governance strategy of food security in Bandar Sribawono district based on the advantages of land area, production, and productivity compared to 16 other districts. The problems faced include: 1) availability of production inputs (fertilizer, pesticide, corn seed); 2) agricultural production facilities; 3) technology (including irrigation); 4) and weather or natural conditions. Another problem is the readiness of collaborative governance of human resources, such as head of Bandar Sribawono district, head of Bandar Agung Village, head of hamlet 18-19, Farmer Group Association, the private sector, and the community.

METHODOLOGY

The research method used in this study is a qualitative method and descriptive analysis. This method is used to find out and describe in depth what and how the collaborative governance strategy is able to build integrated synergy between the sub-district government, village government, Gapoktan in the Bandar Sribawono area, the private sector, and farming communities to overcome food security problems. The data collection techniques used are observation and in-depth interviews. Data collection through observation is carried out, to directly observe what is happening in the field. Through observation, researchers can obtain views on what is actually being done, observations are obtained through several channels, namely, through news or mass media information, through information from community members and directly to the field to find out the implementation of overcoming food security challenges. Interviews are direct conversations with specific objectives using question and answer format. Interviews are used to obtain data on collaboration and innovation strategies related to food security.

RESULTS AND DISCUSSION

Collaborative Governance for Handling Corn Seed Availability

Corn plants are chosen as part of food security because they have many uses such as animal feed, basic ingredients for the food and beverage industry, corn flour, corn oil, corn sugar and food ingredients. Indonesia's domestic need for corn is expected to continue to

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increase, currently 55% of corn is used for feed, 30% for food consumption, and 15% for seeds and other needs. Various types of corn seeds commonly used by farmers are presented in table 1.

Table 1. Types of hybrid corn seeds

No	Type of Corn Seed	Used	Not used
1	NK 7328 Sumo	✓	
2	NK 7328 Sumo Sakti	✓	
3	NK 6172 Sumo Perkasa	✓	
4	NK Jago		✓
5	BISI 18		✓
6	Pioneer P27		✓

Source: Bandar Sribawono field research 2025

Corn seeds that are based on the experience of farmers suitable for cultivation in Bandar Agung Village, Hamlets 18 and 19 (including other villages) are NK (Northrup King) Sumo type corn seeds (NK 7328 Sumo, NK 7328 Sumo Sakti, NK 6172 Perkasa, and others) Superior Hybrid corn seeds. NK Sumo has advantages, namely a resistant to stem borers and tolerant to glyphosate herbicide. These advantages benefit corn farmers in general and corn farmers in Hamlets 18 and 19 in particular, namely easy to maintain, profitable because planting costs are lower and increases crop yields.

NK Sumo seeds are widely available in large agricultural stores (R1) in Sidoreja village and in small agricultural stores (R2) one of which is in hamlets 18 and 19. Each farmer procures these seeds by purchasing them at a price of Rp 550,000/5 kg/bag. At this time, NK Sumo corn seeds are easy to obtain, on average 20 kg/Ha/4 bags of corn seeds are needed.

Collaborative governance carried out effectively, good communication, direct supervision, and responsibility among stakeholders succeeded in ensuring the availability of NK Sumo corn seeds in Hamlet 18 and 19.

Collaborative Governance for Handling Fertilizer Availability

Fertilizing corn plants is done as an effort to meet the needs of plants so that production goals can be achieved. Corn plants really need a sufficient supply of nutrients. Fertilization greatly supports efforts to preserve land productivity and maintain the availability of nutrients in the soil.

Some specific uses of fertilizer for corn include: 1) Increasing growth, especially nitrogen (N); 2) Increasing the quality of the results, especially phosphate (F) and potassium

(K) so that the fruit quality is good and resistant to drought; 3) Preventing nutrient deficiencies so that growth is not slow; 4) Increasing resistance, especially to pests and diseases and extreme weather; 5) Improving soil structure, especially porosity and storing water; 6) Preventing rotting due to weak roots; 7) Accelerating fruit ripening; 8) Reducing cob weight shrinkage; 9) Increasing plant resistance to pests and diseases; 10) Improving the quality of results, both flowers and fruit. Various types of fertilizer commonly used by farmers are presented in table 2.

Table 2. Types of fertilizers

No	Type of fertilizer	Used	Not used
1	Urea	✓	
2	NPK Phonska Pelangi	✓	
3	SP 36		✓
4	KCL		✓
5	ZA		✓
6	NPK Mutiara		✓
7	TSP		✓

Source: Bandar Sribawono Field Research 2025

The types of corn plant fertilizers used in Hamlet 18-19 are organic fertilizers and chemical fertilizers. The organic fertilizers used are compost and animal manure (Kohe). Fertilization using compost and kohe is mainly to loosen infertile soil (only infertile land). While chemical fertilization of corn plants uses Urea. The use of Urea is to provide nitrogen nutrients which are important for the vegetative growth of corn plants. In addition, using NPK Phonska Pelangi, a compound fertilizer (macro nutrients) containing nitrogen (N), phosphorus (P), potassium (K), and sulfur (S) as well as other nutrients, which are useful for improving the quality and yield of corn.

The need for organic compost fertilizer in hamlets 18 and 19 is 1 ton/Ha. While for Urea fertilizer 3 sacks (50 kg/sack) or 150 kg and NPK Phonska also 3 sacks (50 kg/sack) or 150 kg. Fertilization using Urea and NPK Phonska is done 2 (two) times (corn plants aged 15 days and 30 days), thus 6 sacks of Urea fertilizer and 6 sacks of NPK Phonska fertilizer are needed. The price of subsidized fertilizer is based on HET (Highest Retail Price), namely: a) Urea Fertilizer IDR 2,250/kg; b) NPK Phonska Fertilizer IDR 2,300/kg.

Collaborative governance that is carried out effectively, routinely, with good communication, direct supervision of farmers and providers of production facilities has succeeded in ensuring the availability of Urea and NPK Phonska fertilizers in Hamlet 18 and 19.

Collaborative Governance for Handling Pesticide Availability

Pesticides are chemicals or other materials used to kill, control, or repel pests or diseases that damage plants or agricultural products. Pesticides function to protect plants from pests and diseases, so that they can increase crop yields and the quality of agricultural products. There are several types of pesticides, namely: 1) insecticides to eradicate insects; 2) fungicides to eradicate fungi or mold; 3) herbicides to eradicate weeds or wild plants; 4) Rodenticides to eradicate rodents such as mice; 5) nematicides to eradicate nematodes or earthworms; 6) acaricides/mitisides to eradicate mites and ticks. Various types of pesticides are presented in table 3.

Table 3. Types of Pesticides

No	Type of Pesticide	Used	Not Used
1	Emacel 30EC insecticide	✓	
2	Prevathon 50SC insecticide	✓	
3	Sapporo 52EC insecticide	✓	
4	Decis 25FC		✓
5	Furudan 3G		✓
6	Regent		✓
7	Antracol 70WP fungicide		✓
8	Cornbelt herbicide		✓
9	Petrokum rodenticide		✓

Source: Bandar Sribawono Field Research 2025

Farmers in Hamlet 18-19 more often use pesticides such as Emacel, Prevathon, or Sapporo. The use of pesticides depends on the type of pest that attacks the corn plant and its effectiveness. Sapporo is effective in eradicating caterpillars, while Emacel and Prevathon are effective in eradicating cob borers.

Collaborative governance through direct supervision, good communication with farmers and providers of production facilities succeeded in ensuring the availability of the three pesticides namely Emacel 30EC, Prevathon 50SC and Sapporo 52EC in Hamlet 18 and 19.

Collaborative Governance for Supervision of Corn Land Processing

Corn land preparation is very important which includes various steps to create optimal soil conditions for corn growth. This process includes: 1) land clearing; 2) soil loosening, and 3) adding nutrients. The main objectives of land preparation are: 1) creating better physical, chemical, and biological soil conditions; 2) eliminating weeds; and 3) minimizing erosion. The land processing process is shown in table 4.

Table 4. Corn Land Processing Process

No	Land processing process	Used
1	Land clearing	Agricultural extension workers, farmers
2	Land processing	Agricultural extension workers, farmers
3	Land improvement	Agricultural extension workers, farmers
4	Planting	Agricultural extension workers, farmers

Source: Bandar Sribawono field research 2025

In Hamlet 18-19, on average each farmer group cultivates 1 Ha (10,000 m^2) of land and can be more. The combined farmer group oversees 22 Farmer Groups, thus cultivating approximately 22 Ha of land. All land is cultivated according to the stages in table 4 and the land cultivation method used is the Minimum Tillage method as in table 5. The Minimum Tillage method based on farmers' experience is suitable for corn land in Hamlet 18-19.

Collaborative governance provides direction, good communication, and direct supervision to farmers so that the entire land processing process is followed according to the instructions of agricultural extension workers and successfully prevents soil degradation and salination, so that productivity is always good.

Table 5. Corn Land Processing Method

No	Land Processing Method	Used	Not used
1	Zero Tillages		✓
2	Minimum Tillage	✓	
3	Conventional Tillage		✓

Source: Bandar Sribawono Field Research 2025

Collaborative Governance for Availability of Corn Farm Labor/Laborers

Corn field workers or often called corn farm laborers are workers involved in corn cultivation, from planting, maintenance, to harvesting. They usually work on other people's farmland and are paid according to their work results or working hours. Corn farm laborers can also have foremen who regulate the work and distribution of wages. Experience has shown that corn farm laborers have an important role in the life cycle of corn plants.

In Hamlet 18-19, the existence of farm laborers is very much needed. They are paid for corn field processing, maintenance, until harvest. The number of farm laborers is available in sufficient numbers, generally they receive wages of IDR 750,000/1/4 Ha for land processing and planting corn seeds and IDR 2,000,000/Ha during harvest time.

Collaborative governance carried out efficiently, good communication, regular meetings between stakeholders have succeeded in ensuring the availability of farm labor needs in Hamlet 18-19.

Collaborative Governance for Agricultural Technology Use

Agricultural technology is the application of science and engineering to improve the efficiency and productivity of agriculture, as well as the quality of agricultural products. It covers a wide range of aspects, from agricultural tools and machinery, to information systems and information technology in agriculture.

Agricultural technology applied in Indonesia: 1) Multipurpose sprayer. Helps farmers protect crops from pests and diseases; 2) Hand tractor Facilitates land processing work such as plowing, weeding, and planting; 3) Drip irrigation system. Saves water use for irrigation; 4) Rice harvester. Helps in the process of harvesting rice plants; 5) Agricultural drone. Used for spraying, seeding, and monitoring crops; 6) Vertical farming and plant factory. Rapidly developing agricultural technology to increase the efficiency of land use.

In Hamlet 18-19 so far has not implemented modern agricultural technology. The process of land processing, planting corn seeds, to the process of harvesting corn, still uses simple agricultural tools and human power or corn farm workers. Seed planters and hand tractors have not been used and there is no modern irrigation system, there is rainwater and pumping during the dry season. On the other hand, corn production and productivity are still good (7-8 tons/Ha).

Collaborative governance has provided an understanding of the benefits of modern agricultural technology, but for farmer groups modern agricultural technology is still an expensive investment.

CONCLUSION AND RECOMMENDATIONS

Collaborative Governance is carried out efficiently, routinely in communication, direct supervision, good responsibility, good cooperation between stakeholders in Bandar Sribawono, especially in Bandar Agung Village and Hamlet 18-19 has succeeded in maintaining the availability of: 1) NK Sumo corn seeds; 2) Urea and NPK Phonska fertilizers; 3) Emacel 30 EC, Prevathon 50 SC and Sapporo 52 EC pesticides; 4) overcoming soil degradation and salinization; 5) ensuring the availability of farm workers; and 6) but has not been able to encourage the use of modern agricultural technology. To overcome the problem of food security, especially the use of agricultural technology, through collaborative governance, corn farmers are advised to use seed planters.

REFERENCES

Ansell C. and Gash A. (2008). Collaboratives Governance in Theory and Practice. Journal of Public Administration Research and Theory:J-PART 18(4), 543-571.

Biro Pusat Statistik Provinsi Lampung. (2025). Provinsi Lampung dalam Angka 2025. Volume 56.

Fikriman, Hermawanto, C. dan Is, A. (2020). Indikator yang Mempengaruhi Tingkat Ketahanan Pangan di Kabupaten Bungo Provinsi Jambi. Jurnal Galung Tropika. 9(3), 348-355.

Pujiati, S., Pertiwi, A., Silfia, C. C., Ibrahim, D. M., and Hafida., S. H.N, (2020). Analisis Ketersediaan, Keterjangkauan dan Pemanfaatan Pangan dalam Mendukung Tercapainya Ketahanan Pangan Masyarakat di Provinsi Jawa Tengah. Jurnal Sosial Ekonomi Pertanian, 16(2), 123-134.

Purwaningsih, Y., Sutomo, dan Istiqomah, N. (2015). Analisis Dampak Alih Fungsi Lahan terhadap Tingkat Ketahanan Pangan Rumah Tangga Petani di Karanganyar. Jurnal Ilmu Administrasi. 1(2). 99-107.

Rumawas,V. Nayoan, H. dan Kumayas, N. (2021). Peran Pemerintah dalam Mewujudkan Ketahanan Pangan di Kabupaten Minahasa Selatan (Studi Dinas Ketahanan Pangan Minahasa Selatan). Jurnal Governance. 1(1),1-12.

Wibowo, C. S. (2015). Dampak Pengalihan Fungsi Lahan Sawah pada Produksi Padi Sampai Tahun 2018 dan Implikasinya Terhadap Ketahanan Pangan Wilayah (Studi di Kecamatan Jaten Kabupaten Karanganyar Propinsi Jawa Tengah. Jurnal Ketahanan Naional, 21(2), 107–117.