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PT Pertamina Patra Niaga Integrated Terminal Banjarmasin: Communitybased Social Innovation Strategy For Stunting Prevention

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Abstract
This article discusses the implementation of the "BUNGAS" (Banjarmasin in Anti-Stunting Community Development Efforts) CSR program by PT Pertamina Patra Niaga IT Banjarmasin through asman toga management activities, the involvement of posyandu cadres, and the development of household food security. This program is a community-based social innovation in an effort to accelerate the reduction of stunting rates through improved nutrition. This study uses a qualitative descriptive approach and case studies. The results show that the program has successfully created significant social, economic, and environmental impacts and contributed to the achievement of several SDGs indicators.

Keywords: CSR; stunting; social innovation; community empowerment; Food Security

INTRODUCTION

Stunting is a condition of failure to grow in children under five due to chronic malnutrition and recurrent infections, especially in the first 1,000 days of life. This problem is a national issue that is prioritized in the sustainable development agenda because it affects the quality of human resources in the long term. Children who experience stunting have a greater risk of cognitive developmental delays, low productivity in adulthood, and are susceptible to non-communicable diseases.

Based on the results of the 2022 Indonesian Nutrition Status Survey (SSGI), the national stunting prevalence rate is still at 21.6%, while in Banjarmasin City, the prevalence is recorded at 22%. This figure is still above the national target of 14% by 2024. This condition reflects the still high burden of stunting that requires cross-sector treatment, factors such as low family nutrition knowledge, limited access to basic health services, economic limitations, and inappropriate parenting practices are the dominant causes that contribute to the high stunting rate. The impact of the COVID-19 pandemic has also worsened the situation, weakened people's purchasing power and reduced access to nutritious food.

Therefore, stunting management must be carried out through a comprehensive approach, both through specific interventions in the fields of nutrition and health, as well as sensitive interventions targeting economic, educational, and social environmental aspects (UNICEF, 2018). Efforts to combat stunting also require a collaborative, contextual, and sustainable approach, including through private sector involvement.

PT Pertamina Patra Niaga Integrated Terminal (IT) Banjarmasin, as part of a state-owned enterprise engaged in the energy sector, has shown its commitment to community social development through the Corporate Social Responsibility (CSR) program. One of the flagship initiatives developed is the BUNGAS program (Banjarmasin in Efforts to Development an Anti-Stunting Society), which was implemented in the Kuin Cerucuk Village area, West Banjarmasin. This program focuses on accelerating the reduction of

stunting rates through a community-based community empowerment approach, with main activities such as the management of the ASMAN TOGA group (Independent Care of Family Medicinal Plants), posyandu cadre training, pre-marriage education, and local food cultivation with budikdamber technology (cultivation of catfish and vegetables in buckets). This program integrates health education approaches, nutrition interventions, and strengthening community-based food security. The main activities include pre-marital socialization and balanced nutrition classes, stunting prevention campaigns, and the development of fish and vegetable cultivation in buckets (budikdamber).

This activity is carried out within the framework of social innovation as a strategic approach in CSR. Social innovation is understood as a solution developed to answer the needs of society, especially vulnerable groups, by creating systemic change and social sustainability (Mulgan, 2006). The BUNGAS program not only provides direct intervention in the form of training and counseling, but also creates a new social ecosystem that encourages community participation in the development process. This is in line with the concept of Creating Shared Value put forward by Porter & Kramer (2011), where companies create shared value for businesses and society through social integration in the company's core strategy.

This program also strengthens the contribution of the industrial sector to the achievement of the Sustainable Development Goals (SDGs), especially SDG 2 (No Hunger), SDG 3 (Health and Well-Being), and SDG 8 (Decent Work and Economic Growth). The approach used by PT Pertamina IT Banjarmasin includes empowering 70 posyandu cadres, developing catfish cultivation for local food security, and providing balanced nutrition counseling to brides-to-be. This initiative reflects the importance of community participation in social development as emphasized by Chambers (1997) in the people-centered development approach.

More than just providing assistance, this program shows the use of local assets that support innovation, such as narrow yard land that is converted into productive land for TOGA, as well as organic waste that is processed using maggot as an alternative feed for catfish. This approach is also in line with the Reduce, Reuse, Recycle (3R) strategy in environmental management (Gunawan, 2021) as well as efforts to mitigate climate change through reducing greenhouse gas emissions (Iskandar, 2019).

Unlike conventional intervention programs, the BUNGAS Program emphasizes collaboration between stakeholders and the active involvement of local communities in designing and implementing activities. This makes this program a form of social innovation, namely the creation of new solutions to social problems through a participatory, contextual, and sustainable approach.

Thus, the BUNGAS program by PT Pertamina IT Banjarmasin is a form of synergy between the industrial sector and the community in creating social innovations to address the stunting problem comprehensively. This article aims to descriptively analyze the implementation of the BUNGA program, including its social and environmental impacts, as well as its contribution to the achievement of sustainable development at the local level.

METHOD

This study uses a descriptive qualitative approach to describe in depth how the "BUNGAS" CSR program is implemented and its impact on efforts to accelerate stunting reduction and community empowerment. This approach was chosen because it is able to provide a deep contextual understanding of the social realities faced by the people of Kuin Cerucuk Village, where the program takes place.

The type of research used is an exploratory case study, with the consideration that the social phenomenon being studied is complex and tied to a specific context. Case studies allow researchers to explore the dynamics of program implementation holistically within real time and space frames (Yin, 2018). The main

focus of this research is the activities in the BUNGA program, especially the implementation of Independent Care of Family Medicinal Plants (ASMAN TOGA), training of posyandu cadres, nutritional counseling, and food management based on budikdamber technology (cultivation of fish and plants in buckets).

The research was carried out in Kuin Cerucuk Village, West Banjarmasin District, Banjarmasin City, as the main location of the program. The research subjects include the program implementers, namely posyandu cadres who are members of the ASMAN TOGA group, the CSR team of PT Pertamina Patra Niaga IT Banjarmasin, the Banjarmasin City Government through Kuin Cerucuk Village, community leaders, and direct beneficiaries of the activities carried out. This diversity of subjects provides a broad perspective to assess the effectiveness and sustainability of the program.

Data collection is carried out through three main methods. First, in-depth interviews were conducted to explore the subjective experiences of cadres and program implementers regarding the process of implementing activities, the obstacles faced, and the impact on their lives. Second, participatory observation is carried out to directly observe activities such as cadre training, cultivation practices, and counseling activities to the community. Third, the documentation study was used to examine the activity implementation report (LPJ), the roadmap of the PRIMATA PROBOSCIS monkey program, and the environmental and social impact assessment prepared by the company's CSR team.

The data that has been collected is analyzed using the thematic analysis method as developed by Braun and Clarke (2014). This technique consists of six main stages, namely: familiarizing yourself with the data, creating initial code, identifying themes, reviewing themes, defining and naming themes, and crafting an analytical narrative. The analysis was carried out iteratively to ensure the accuracy and depth of interpretation of the field data. This approach is particularly relevant to understand complex social issues such as stunting and community empowerment, where the narrative and meaning of the subject's experiences play an important role.

In addition, this study also uses a framework for analyzing the contribution to the Sustainable Development Goals (SDGs) as an evaluative tool. Referring to the model from Scheyvens, Banks, and Hughes (2016), the activities in the BUNGAS program are associated with relevant indicators such as SDG 2 (No Hunger), SDG 3 (Health and Well-Being), and SDG 8 (Decent Work and Economic Growth). This approach allows researchers to assess the extent to which the program has aligned its impact with the global sustainable development agenda.

With a combination of case studies, interviews, observations, and thetically analyzed documentation, this research is expected to be able to provide a complete picture of the effectiveness and sustainability of the BUNGAS CSR program as a social innovation that answers the challenge of stunting at the community level.

RESULTS AND DISCUSSION

The BUNGAS program (Banjarmasin in an Anti-Stunting Community Development Effort) is a form of social innovation developed by PT Pertamina Patra Niaga IT Banjarmasin in response to the high stunting rate in the Kuin Cerucuk Village area. This program targets specific and sensitive interventions by empowering posyandu cadre groups through ASMAN TOGA activities, health and nutrition counseling, and household-based food security development.

For the achievement of the BUNGA Program Implementation, the results of the program implementation show that most of the implementation indicators have been successfully achieved.

The following table summarizes the program's achievements based on the key indicators set out in the planning:

Table 1. Achievements of the BUNGAS Program in Kuin Pirucuk Village (2023–2024)

Purpose	Outcome	Achievements
The creation of a group that focuses on the health sector, especially stunting problems in Kuin Cerucuk Village, West Banjarmasin District, Banjarmasin City	The formation of an active and sustainable posyandu cadre group with a clear organizational structure and a work program that focuses on stunting prevention.	100%
Supporting the Banjarmasin City Government program	The implementation of continuous collaboration between the private sector, the government, and the community in handling stunting.	100%
Supporting the achievement of the Proper check in the field of Community Empowerment	The program is recognized as part of successful community empowerment efforts, with indicators in the form of documentation of the implementation of activities, community involvement, and capacity building of participants according to the Proper criteria.	100%
Increasing the capacity of posyandu cadres in terms of preventing and handling stunting cases	At least 50% of cadres are able to apply Budikdamber technology to increase family nutritional intake.	100%
Preventing an increase in the number of stunted children in Kuin Cerucuk Village	Creating an environment that supports a healthy diet and balanced nutrition through socialization programs and community interventions.	100%
Providing a forum for community development in an effort to accelerate the reduction of the number of stunted children in Kuin Cerucuk Village.	The formation of an empowered community, with 70% of group members routinely carrying out development activities such as catfish cultivation, vegetables, and nutrition counseling.	100%
	Processed products of posyandu cadres from the results of Budikdamber began to be used by the surrounding community as an additional nutritional intake.	100%
	Overall Program Access	100%

Description: Report of LPJ ASMAN TOGA PT. Pertamina Patra Niaga IT Banjarmasin

Food security is a key pillar in stunting prevention, where the availability, access, and utilization of nutritious food must be ensured at the household level. In the context of the BUNGA program, the approach to food security is carried out through the empowerment of local

communities, especially posyandu cadres and Women Farmers Groups (KWT), to utilize yard land and simple agricultural technology based on urban farming and the integration of local food systems.

One of the main innovations implemented is the Fish and Plant Cultivation system in Buckets (Budikdamber). This activity utilizes buckets as a medium for catfish cultivation, which is combined with hydroponic vegetable cultivation such as kale. This system has proven to be effective for areas with limited land. Data from the program showed an increase in catfish harvest from 25 kg at the beginning to 42 kg in six months of implementation. On the other hand, hydroponic kale can be harvested periodically with an average yield of 200 grams per bucket, strengthening the availability of daily fresh vegetables in beneficiary households.

This cultivation model not only answers the issue of access to nutritious food sources, but also strengthens the economic capacity of the family. Some of the crops are used for their own consumption by families with stunted children, while the rest is sold on a limited basis to support the sustainability of activities. This practice is in line with the principle of community-based food security which emphasizes the importance of direct community involvement in food production and distribution (FAO, 2015).

Furthermore, the involvement of the Orchid Women Farmer Group (KWT) in managing an area of 700 m^2 is a tangible form of community-based food diversification. The commodities planted include horticulture such as corn, chili, eggplant, long beans, as well as fruit and medicinal plants. This system supports a diverse diet according to the principles of balanced nutrition, as well as being an educational means for the surrounding community about the importance of healthy food from their own products (Ministry of Health of the Republic of Indonesia, 2021).

In addition to land productivity, food security is also supported by input efficiency through sustainable practices, such as the use of organic fertilizers from fermented household waste, as well as the use of maggot as an alternative feed for catfish. This integration creates a circular economy model that supports each other between the food, health, and environmental sectors. According to Porter and Kramer (2011), the success of corporate social initiatives depends on their ability to create shared value, which is social and economic values that reinforce each other.

By integrating educational approaches, appropriate technology, and community empowerment, the BUNGAS program has created a resilient local food ecosystem. This is not only relevant in the context of stunting prevention, but also a long-term strategy in building family food security and community independence.

Environmental management in the BUNGAS CSR program is not only a supporting component, but also a central part in encouraging changes in the ecological behavior of the community. The strategy used prioritizes the principle of a circular economy, where waste is no longer seen as a residue, but as a new resource that can be processed and reused. This approach creates synergies between emission reduction, material efficiency, and improved community welfare.

The program produces eco enzymes, which are multipurpose liquids resulting from fermented vegetable and fruit waste. It is used as a natural cleaner for households and the

environment, thereby reducing the use of chemical-based detergents that have the potential to contaminate water and soil. The effectiveness of eco enzymes in this program also contributes to the reduction of liquid and solid waste from beneficiary households (Gunawan, 2021).

The program also utilizes inorganic waste such as used helmets and plastic bottles as TOGA plant pots and hydroponic vegetable cultivation media. This practice strengthens the practical application of the 3R (Reduce, Reuse, Recycle) principle at the household level. According to Mulyani and Susanto (2020), the application of the 3R principle has been proven to reduce the volume of waste by up to 30% if implemented consistently and participatoryly.

Based on the data of the 2024 environmental impact assessment, the program's activities have succeeded in reducing GHG emissions by 209.05 tons of CO_2e per year. This contribution comes from the use of maggot as a medium for decomposing organic waste, the production of eco enzymes from kitchen waste, the use of used helmets and plastic bottles as plant pots, carbon absorption from mother-in-law tongue and kale plants, and the reduction of the use of chemical fertilizers through the use of manure and compost.

In addition to the ecological impact, this approach also produces an economic value of Rp 16,286,341.48, calculated from the cost savings of fertilizers, fish feed, household cleaners, and plant products that are consumed or sold. This shows that a community-based zero waste strategy not only contributes to environmental conservation, but also strengthens the economic resilience of communities amid food and energy challenges.

Thus, the BUNGAS program not only targets environmental mitigation technically, but also forms new ecological awareness in the community. Such an approach is considered effective in strengthening grassroots-based low-carbon development and can be replicated in other regions with similar contexts.

The success of BUNGAS' CSR program is not only reflected in the achievement of technical and environmental indicators, but also in its broad and sustainable social impact at the community level. This program strategically targets strengthening the social capacity of the community through the formation of cadres, increasing health literacy, and developing community-based productive business groups.

One of the main achievements from the social side is the empowerment of 70 posyandu cadres who are members of the ASMAN TOGA group. These cadres not only carry out the traditional functions of basic health services, but also take on the role of nutrition educators, food managers, hydroponic trainers, and drivers of family behavior change. This multifunctional role strengthens the position of women in community-based development, as well as fosters local leadership that is responsive to the issues of stunting and nutrition security (Suharto, 2013; Scheyvens, Banks, & Hughes, 2016).

The active involvement of women cadres in the management of TOGA, catfish cultivation, and maggot and eco enzyme production reflects an approach that is in line with the principles of social participation in sustainable development. Their activities not only generate physical output in the form of food and processed products, but also strengthen social solidarity and community

work networks. This activity is in line with the concept of community empowerment which places the community as the main actor of change, not just the object of the program (Chambers, 2015).

In addition to cadres, the involvement of groups of brides-to-be and couples of childbearing age in pre-marital education activities expands the reach of the program's social interventions. A total of 62 brides-to-be have participated in socialization on reproductive health, premarital nutrition, and the importance of family planning. This education is important to prevent the risk of stunting from the pre-conception stage, as recommended in the national policy to accelerate stunting reduction (Ministry of Health of the Republic of Indonesia, 2021).

From the results of interviews and observations, it appears that increasing public knowledge about balanced nutrition, sanitation, and positive parenting contributes to changes in healthy lifestyles. For example, families involved in the program tend to be more active in monitoring children's growth and development and adopting a more diverse diet. These changes reflect social transformation in terms of behavior, not just in physical or economic aspects.

Overall, the program's strategy in forming functional social groups, increasing women's capacity, and strengthening inter-household networks shows success in creating new social capital at the local level. As stated by Scheyvens et al. (2016), successful development is one that builds trust, community leadership, and local self-reliance as the foundation of sustainability.

Important findings from the implementation of the program show that BUNGAS activities make a real contribution to women's empowerment, increasing family food security, and strengthening community capacity in nutrition and health issues. In line with the achievements of the program that has been described, the implementation of BUNGAS' CSR has a broad social and environmental impact, not only limited to nutritional interventions, but also strengthens social and ecological ecosystems at the community level. From the social side, the active involvement of 70 posyandu cadres in the entire series of activities shows the transformation of women's role in public health development. They are not only technical implementers, but also function as agents of change in their environment, especially in promoting healthy parenting practices, nutrition education, and child growth monitoring. This empowerment is consistent with the people-centered development approach as emphasized by Scheyvens, Banks, and Hughes (2016), who state that the sustainability of social development is determined by the internal capacity of the community.

Furthermore, increasing health literacy through pre-marriage socialization and stunting campaigns directly encourages behavioral changes in young families. This strategy has been proven to increase public awareness of the importance of nutritional intake in the First 1000 Days of Life (HPK), as well as strengthening the role of the family in handling stunting from upstream to downstream (Ministry of Health of the Republic of Indonesia, 2021). The integration of educational activities with food cultivation practices such as Budikdamber and TOGA makes the program approach not only informative but also applicable.

From an environmental aspect, the BUNGAS program is integrated with the large Proboscis monkey primate CSR program which carries the principles of circular economy through maggot-based organic waste management and eco enzyme production. This innovation not only reduces the volume of waste, but also significantly reduces greenhouse gas emissions, with a contribution

to a reduction of 209.05 tons of CO_2 per year based on the environmental impact assessment report (PRIMATA PROBOSCIS monkey Environmental Impact Assessment Report, 2024). The application of reuse through the use of used helmets and plastic bottles as planting media shows that this program prioritizes the use of waste as a valuable alternative resource (Gunawan, 2021).

Furthermore, the practice of yard greening through TOGA and hydroponic kale cultivation strengthens household food security while contributing to improving air quality and microbiodiversity in densely populated areas. These practices show that even on a microscale, community-based environmental interventions can contribute to the low-carbon and sustainable development agenda.

Table 2. Achievements of the BUNGAS Program in Kuin Pirucuk Village (2023–2024)

Purpose	Outcome	Achievements
The creation of a group that focuses on the health sector, especially stunting problems in Kuin Cerucuk Village, West Banjarmasin District, Banjarmasin City	The formation of an active and sustainable posyandu cadre group with a clear organizational structure and a work program that focuses on stunting prevention.	100%
	Overall Program Access	100%

Based on the results obtained, it can be concluded that the BUNGAS program has succeeded in answering the main goal of the study, which is to analyze the contribution of community-based CSR programs in handling stunting through nutrition interventions and social empowerment. The involvement of 70 cadres, mentoring to 25 stunted children, and the regular implementation of educational activities show that this program is not just symbolic, but really creates systemic change.

The program also shows how CSR approaches can be transformed into social innovations that have a wide impact. This is in line with the idea of Porter and Kramer (2011) regarding Creating Shared Value, where companies not only contribute philanthropically, but also create shared value for society.

In addition, these findings reinforce Mulgan's (2006) theory that successful social innovation is one that is able to create new access, respond to the needs of vulnerable groups, and strengthen the internal capacity of the community. In the context of the BUNGA program, the empowerment of posyandu cadres, the use of narrow yards, and maggot-based waste management are tangible forms of this approach.

Overall, the social and environmental impact of the BUNGAS program reinforces the validity that this social innovation-based CSR model does not only target direct results (outputs), but also creates a support system that strengthens community independence in a sustainable manner. This makes BUNGAS a best practice in CSR planning that is integrated with the Sustainable Development Goals (SDGs).

CONCLUSION

The BUNGAS CSR program (Banjarmasin in an Effort to Develop an Anti-Stunting Society) by PT Pertamina Patra Niaga IT Banjarmasin has succeeded in showing that the community-based social innovation approach can be an effective strategy in accelerating the reduction of stunting rates. The main findings of this study show that the integration of household food security activities through budikdamber, health education through posyandu cadres, and environmental management based on circular economy principles have a direct impact on improving the quality of life of the community, especially families with children at risk of stunting. The active involvement of 70 female cadres in TOGA activities, maggot management, catfish cultivation, and nutrition education forms a functional social network that strengthens community capacity in dealing with health and food issues. In addition, the integrated use of organic and inorganic waste not only significantly reduces greenhouse gas emissions, but also creates real economic efficiencies that can strengthen group independence. Thus, this program not only answers the needs of nutrition and health interventions (specific interventions), but also addresses the social determinants of stunting systemically (sensitive interventions), in accordance with the framework of the research objectives.

Based on the findings and conclusions of the research, there are several things that can be used as a reference for the further development of the BUNGAS program and similar initiatives. First, the community-based approach that has proven effective in this program should be replicated in other regions that have similar challenges in terms of food security, high stunting rates, or limited access to basic health services. Such replication needs to take into account the local social and cultural context so that program adaptation can take place optimally and sustainably.

Second, there is a need to strengthen a data-based monitoring and evaluation system. So far, monitoring activities still rely heavily on manual reporting from cadres or diaries. With the support of simple technology, such as Android-based applications or community information systems, recording child growth, crop yields, and the environmental impact of waste management can be done more accurately and in real-time. This approach not only strengthens the transparency and accountability of the program, but also serves as the basis for decision-making in future development planning.

Third, the economic potential resulting from various activities such as catfish cultivation, horticultural agriculture, organic fertilizer processing, and eco enzyme production can be further developed into group-based micro business units. With adequate entrepreneurship assistance and market access support, the processed products have the opportunity to contribute to people's income, especially women who have been the main drivers of the program. This strategy will expand the impact of CSR programs not only in social and environmental aspects, but also economically.

Fourth, it is important to build wider multi-stakeholder synergy in the implementation of similar programs. The involvement of other private sectors, non-governmental organizations, universities, and local governments across sectors can strengthen sustainability and expand the scope of

programs. This collaboration allows for a more dynamic integration of resources, ideas, and innovations to address social problems holistically.

With these suggestions, it is hoped that intervention models such as the BUNGAS program will not only be an example of good practice, but can also develop into a strategic framework in handling stunting and community empowerment nationally.

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