

## Revisiting the Bario Rice Project in 2024

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### ABSTRACT

The Bario Rice Project, initiated by the Malaysian government under the National Key Economic Area (NKEA) initiative, aimed to modernize rice farming in the Kelabit Highlands of Sarawak, Malaysia, to boost agricultural productivity and improve farmers' livelihoods. The project sought to address challenges such as labour shortages, declining rice yields, and competition from misrepresented rice products, while introducing mechanized farming methods to increase efficiency. This paper provides an evaluation of the project based on field research conducted in 2017 that culminated in a brief report, and focusses on that report's original objectives, implementation challenges, and the socio-economic implications for the local Kelabit community. Despite significant investment, including approximately RM30 million in government funding, and a joint venture with a private company, the project faced considerable obstacles. These included, critically, a lack of transparency regarding key performance indicators (KPIs) and failed engagement with the local Kelabit community. The 2017 report recorded farmers concerns over the quality of rice produced, as well as the economic viability of the new farming methods. The project's failure to achieve its ambitious goals, coupled with limited community involvement in decision-making processes, raises questions about the sustainability of such initiatives in traditional communities. The fact that there has been no detailed follow up case study of this six year project, which involved government, community and private sector interests, is further indication of a regrettable attitude of neglect that side-steps important learnings.

### OVERVIEW

Bario, a town located in the Malaysian state of Sarawak along the border with Kalimantan, has long been the primary settlement of the Kelabit people, a community that was once primarily agrarian. Today, Bario hosts between 13 and 16 villages. At any given time, there are approximately 200 people living there, a number that can increase during festivals to more than 1000 (Dr Sarena Che Omar Jasmin and Siti Aisyah Tumin et al., 2018, p. 11). For centuries, local agricultural produce, particularly rice, has been central to the Kelabit way of life. Bario rice, also known as "Adan," is renowned for its exceptional quality and premium status, making it the principal source of income for many farmers in the region. The community identify themselves still, as rice growers (M. Janowski, 2004).

The importance of rice in the Kelabit community extends beyond economic value; it represents cultural identity, social currency, and tradition. However, rice farming in Bario has faced increasing challenges. At one time, supply of rice for domestic consumption in Bario was depleting. Because of uneven land distribution, the reasons for which are beyond the scope of this study, some farmers produced excess rice, while others had insufficient for personal consumption, and this was "appalling to the Kelabit, who have normally always seen ample rice harvest, and to whom not having enough rice...through the year is the most unprestigious and embarrassing thing that could happen" (M. Janowski, 1991, p. 92). The purity

of Bario rice—both in terms of its cultivation methods and its unique identity—has become a significant issue, particularly given the absence of adequate trademark protection.

The introduction of mechanized farming, while promising greater efficiency and yields, has raised concerns about the quality and authenticity of the rice, with some fearing the erosion of the traditional, chemical-free methods that have historically defined Bario rice. The 2009 award of Geographical Indication (GI) certification for Bario rice by the Intellectual Property Corporation of Malaysia (MyIPO) protects its brand, making it illegal to label rice from outside the region as "Bario rice" (Petingi, 2019). However, this certification falls short of ensuring quality control, and much confusion remains in the market regarding the authenticity of rice marked 'Bario Rice', with numerous items on offer which are not the authentic Bario "Adan" though they show the "Bario" mantle. Even more recent local press features Bario rice as a healthy and premium food, at premium cost but fails to cover the lack of quality clarification (*Bario Rice*, 2024).



*Figure 1: View of Bario from twin otter plane*

In 2011, the Malaysian Federal Government approved the Bario Rice Industry Development Project (referred to as the "Bario Rice Project" or "Project") under the National Key Economic Areas (NKEA) initiative for agriculture. (Prime Minister's Department Malaysia: Performance Management and Delivery Unit (PEMANDU), 2012). The Project had wellmeaning intentions to modernise farming processes and thus address key challenges facing the rice farming sector in Bario. An article from *The Borneo Post* (2012) highlighted the plight of Bario rice: while over 500 acres of land were once dedicated to rice cultivation, in 2012, only half that area was planted then. There was increasing frequency in shortage of Bario rice in the highlands, and many Kelabit households were forced to purchase rice from Miri. Paddy farmers, mostly older individuals, found it increasingly difficult to manage rice cultivation, with the cost of hiring external labour proving prohibitive. As a result, many turned to alternative sources of income, such as homestay businesses (Doreena Naeg, 2012).

The central question, then, should have been and remains whether the Bario rice industry can be revitalized to moving away from the labor-intensive 'traditional' farming of paddy fields to reduce costs and increase harvest output while maintaining the integrity of the grain, and at all times getting the buy in of the Kelabit community, that group of 200 and particularly those active in rice production there. Unfortunately, it seems this layered question was not thoroughly addressed, if considered at all, by the driving stakeholders. To date the lack of publicly available data on the Project and failure of the initiators

to even publish a meaningful case study that highlights challenges in the interest of developing better future programmes, is problematic.

It is important to note that the notion of ‘traditional farming’ commonly referenced in this context is somewhat of a misnomer. In fact, it is a mid-20th century construct (Coates, 2015). Archaeologist Lindsay Lloyd-Smith, a member of *The Cultured Rainforest Project* at Cambridge University, which conducted a three-year study of the Kelabit Highlands that ended in 2010 (Giberti, 2019, observes that the "traditional" wet rice fields of pre-Ceria Bario were themselves a recent development. The Kelabit first constructed permanent paddies in the 1950s and 60s. Before that, like many indigenous communities in Borneo, the Kelabit cultivated 'hill rice' as opposed to wet rice. Hill rice cultivation is done by seasonal rotation of land plots to enable to recently used land (after harvest) to be fallowed (regenerate soil fertility). This is also called swidden/shifting cultivation. In this way, rice was grown annually with locations continually reshaped. Thus, the idea of rice fields as ‘traditional’ is, in fact, a relatively modern concept (Coates, 2015). While hand-planted paddy farming is indeed a traditional methodology, Kelabit farmers who advocate for this method argue that it better preserves the integrity of the Adan grain (Kelabit Farmers with Homestay 1, personal communication, November 2024).



*Figure 2: Homestay, Bario*

The Bario Rice Project launched in 2012 with a grant of RM17.9 million allocation from the Ministry of Agriculture, with the goal of revitalizing rice production across some 200 hectares (Doreena Naeg, 2012). The initial grant saw roughly RM 15 million supporting infrastructure development including a dam, roads and irrigation piping, with RM 2 million for harvesting and processing machinery that was bought by and belongs still to the Sarawak Agricultural Department. The Department leased the machinery to Ceria’s subsidiary and maintenance obligations and costs sat squarely with that company (President of Rurum Kelabit, personal communication, November 27, 2024). A second phase of funding followed due to the increasing demand to have vacant land ploughed and resuscitated, which involved an injection of about RM12 million more in government funding (Dr. Philip Raja, Rurum Kelabit President, personal communication, November 27, 2024).

Ceria MD, Thomas Hii, is recorded in a 2013 press article, commenting on the long-term vision behind the Bario Rice Project, emphasising the unique and enduring nature of the partnership created with the Kelabit association. By that time, 145 hectares of paddy fields had been planted, surpassing the area cultivated over the previous decade (“Bario Rice Enjoying New Lease Of Life,” 2013).

In January 2017, James D. Ganendra and I visited Bario to conduct field research for his undergraduate engineering degree at Cambridge University. Our interest in the Bario Rice Project was piqued through discussions with leading members of the Kelabit community who had supported the mechanization project with Ceria Sdn. Bhd. Additionally, our family's long involvement with the Kelabit community in Bario, primarily through cultural and educational projects there, fostered a deeper connection to the region and a strong appreciation for its challenges and opportunities.



*Figure 3: Traditional Planting Technique*

This article provides an overview of the evaluation of the Bario Rice Project Report, October 2017 (James Dennis Ganendra, 2017), and the subsequent developments that led to what Ceria's Managing Director calls the "hibernation" of the project (Thomas Hii, personal communication, November 28, 2024). Our 2017 findings, based on site visits, discussions with farmers and (somewhat unco-operative) Ceria representatives in Bario, and a review of project-related documents, serve to give a better understanding of the Project's decline and cessation in 2018.

By 2017, there was already significant scepticism about the project's impact, with numerous questions surrounding the private company and project management. Even though the project had revitalized about 280 hectares of land and significantly increased rice revenue for farmers, we observed in 2017 a failure to manage critical "social relations" (Marcus Raja, 2015). Despite these challenges, the project had led to an increase in rice revenue for farmers. The unit price of Bario rice rose from approximately RM 12/kg in 2005–2006 to RM 15–20/kg in 2010–2011, due to short supply (Marcus Raja, 2015, p. 40). By 2024, farmers received about RM 13–15/kg (Kelabit Farmers with Homestay 1, personal communication, November 2024; Kelabit Small Holders - Group 2, personal communication, November 2024), though some farmers were able to sell rice for as much as RM 20/kg.



*Figure 4: Harvesting Rice*

## **THE BARIO RICE PROJECT, REVIEW AND STRATEGY BRIEF, OCTOBER 2017**

### *a) Original Objectives of the Bario Rice Project*

Bario's transition to a more modernised and globalized community has not been without significant challenges. In recent years, many younger Kelabits have migrated to urban centres or abroad, leaving the older generation to manage the rice fields. The labour-intensive nature of rice farming, which requires planting and harvesting by hand, has become increasingly difficult. The cost of hiring external labour—often from Indonesia or Penan communities across the border—has further strained the farming community. In addition, traditional farming methods, while environmentally sustainable, are often inefficient, yielding only modest quantities of rice.

Moreover, the misrepresentation of Bario rice by companies falsely claiming to sell authentic products has made it difficult for local farmers to compete in the market. In response to these issues, the Malaysian government initiated the Bario Rice Industry Development Project to modernise the rice farming sector and make it more commercially viable. The project's objectives included:

- Developing a sustainable rice industry that generates significant income for farmers, the local community, and the nation.
- Creating complementary economic activities such as agro-tourism, aquaculture, livestock farming, and food production.

The government established specific Key Performance Indicators (KPIs) for the project, to be achieved by 2014:

- Increasing paddy yield from 1.5 tons per hectare to 3.5 tons per hectare.
- Raising farmers' income to MYR 12,400 per hectare per season.
- Expanding the area under cultivation from 100 hectares to 200 hectares.

The project was to be implemented through a joint venture ('Bario Ceria') between Rurum Kelabit (the Kelabit Association) and Ceria Sdn Bhd ('Ceria'), a Kuching-based company, with the Sarawak Farmers Organisation holding a minority stake. However, despite repeated requests, data on the project's progress has been scarce. Farmers were asked for data on annual harvest yields, but only a few provided the requested information. Ceria, which was directly responsible for monitoring yield and revenue splits, has not shared any data, raising questions about the accuracy of reported progress.

#### *b) Implementation and Farmer Engagement*

The joint venture offered farmers three options for participation:

1. Non-participation in the scheme.
2. Land leasing to Ceria, where Ceria manages the land, and the paddy yield is split (30% to the farmer, 70% to Ceria). Farmers can sell their 30% share of rice to Ceria at MYR 3.60 per kilogram, though some have reported difficulty selling their share.
3. Service agreements whereby Ceria provides land clearing (MYR 300/acre), ploughing (MYR 300/acre), and harvesting (MYR 400/acre), and the farmer retains full rights to the produce.

Additionally, the Malaysian government allocated a MYR 17.7 million grant to modernise the irrigation system and related infrastructure, all of which was directed to Bario Ceria. (It was later discovered that this representation was not accurate and that the grant monies were paid directly to Ceria, with part covering the cost of the machinery. Here again we see another example of possible mis-information circulating about the Project.)

#### *c) Review of Key Performance Indicators (KPIs)*

- i. Increase in Paddy Yield: The first KPI, to increase paddy yield from 1.5 tons per hectare to 3.5 tons per hectare, has been ambiguous. It remains unclear whether the baseline yield refers to the average across all plots or specific plots, leading to potential misinterpretations. Data gathered to date suggests that many plots yield below 1 ton per hectare, and while some improvements have been noted, no dramatic increases have been observed. Environmental factors such as water availability, pests, and disease have influenced yield variability.
- ii. Increase in Farmers' Income: The second KPI, aiming to increase farmers' income to MYR 12,400 per hectare per season, has not been met. Under the current yield-sharing scheme, farmers would need to achieve yields of at least 11.5 tons per hectare to reach this income level, an unrealistic target under current conditions.
- iii. Increase in Area Under Regular Cultivation: This KPI has seen partial success, with progress in irrigation infrastructure development. However, there are concerns that the irrigation systems are inadequate, with farmers reporting that the dams constructed under the project do not function as intended during dry spells.

#### *d) Other Aspects of the Project*

Several challenges persist:

- **Under-utilization of Equipment:** Some machinery provided by Ceria remains unused due to factors such as soil conditions and field contours.
- **Failure of Double Harvesting:** Attempts to implement double cropping have failed.
- **Irrigation System Failures:** The first phase of the irrigation system has not provided adequate water supply.
- **Quality of Rice:** Farmers have raised concerns about the inferior quality of rice returned by Ceria, with reports of contamination and the mixing of new and old rice.
- **Environmental Concerns:** The use of fertilizers and pesticides raises concerns about long-term environmental damage, while the introduction of new pests through machinery remains a risk.

#### *e) Recommendations*

While the original KPIs remain difficult to achieve, Bario rice's exclusivity and high demand still present opportunities for increased farmer income. For the project to succeed, improving communication and collaboration with the Kelabit community is crucial. Proper consultation and engagement are necessary to ensure that farmers remain committed to the project.

Bario rice can become a cornerstone for rural development, but a more holistic approach is needed, one that integrates traditional cultivation methods with modern practices and addresses the socio-economic challenges faced by the community. Future projects must also incorporate environmental sustainability and local knowledge to preserve Bario's rich agricultural heritage.

Continued investment in education, better infrastructure, and a clear framework for evaluating the impact of the Bario Rice Project will help ensure that the Kelabit people remain the custodians of their land while benefiting from modern innovations in agriculture.

### **RELATED OBSERVATIONS AND MOVING FORWARD**

2018 was a year of significant change. The ruling UMNO party lost its longstanding position in Malaysia's government, marking a historic shift in the country's political landscape. Concurrently, the Bario Rice Project entered a phase of "hibernation" amid allegations of irregularities and growing discontent among members of the Kelabit community, despite the effectiveness of some of its members. The harvesting and clearing machinery, although now in disrepair, remain in Bario, and are still government owned.

In 2018, the Khazanah Research Department published a survey on the Bario Rice Project, which highlighted the "identity crisis" faced by the Kelabit community due to conflicting objectives and methodologies, essentially the tensions between increasing rural income by adopting productivity-inducing cultivation methods or retaining old methods to sell rice as chemical-free product but with lower yield and poor product quality. While mechanization promised faster economic returns, it also threatened the quality of rice traditionally produced using chemical-free methods (Dr. Sarena Che Omar Jasmin, Siti Aisyah Tumin, et al., 2018, p. 1). The traditional method of rice cultivation, while labor-intensive and requiring six months to yield one crop per year, ensures the purity of the Adan rice product (Doreena Naeg, 2012).

Determining what constitutes a ‘pure product’ is a more complex issue and requires formalised study and documentation, including input from the Kelabit experts. Currently, there are eight genetically distinct cultivars of Bario rice, and the authenticity of these varieties is best determined by the indigenous knowledge of the Kelabit community, rather than relying solely on laboratory processes (Dr. Sarena Che Omar Jasmin, Siti Aiysyah Tumin, et al., 2018, p. 13). Many farmers continue to follow the traditional methods, using their harvested rice exclusively for reseeded in order to maintain the integrity of their crops (Kelabit Farmers with Homestay 1, personal communication, November 2024).

Local accounts identify four main types of Bario rice: 1) fine-grain white, 2) fine-grain yellow, 3) red rice, and 4) black rice (Dr. Sarena Che Omar Jasmin, Siti Aiysyah Tumin, et al., 2018, p. 13). Preserving the integrity of Bario Adan rice requires collaboration with the Kelabit community, particularly the elders who are well aware of the taste integrity of that rice, to develop a viable seeding program that will secure future crops, as well as safeguard the rice’s trademark protection. The current Geographical Indication (GI) certification offers limited protection, and the only trademark associated with Bario rice is owned by Ceria Group, which uses the label: "Ceria Group, Authentic Bario Rice". The Khazanah report also highlights the "limited formalization of Bario rice’s identity" (Dr. Sarena Che Omar Jasmin, Siti Aiysyah Tumin, et al., 2018, p. 15).

This article recommends that the Rurum Kelabit Association apply for and take ownership of the trademark for "Bario Adan Rice." Such an initiative would enable the Kelabit community to regulate and preserve the authenticity of their rice, ensuring that their expertise contributes to the protection of this important cultural heritage. Further research is needed to develop Bario Adan Rice into a specialty product and enhance its marketability. This research must be formalized for future reference and accountability (Dr. Sarena Che Omar Jasmin, Siti Aiysyah Tumin, et al., 2018, p. 16).

Once the scientific identity of Bario rice is firmly established, a Seed Program should follow to secure and propagate the designated cultivars. This program would benefit from duplicate seed placements in Bario and a regulated seed bank in Sarawak, ensuring a sustainable supply of seeds exclusively for Bario. The distinct taste of Bario rice is influenced by the region’s unique combination of soil, air, and water—all of which can only be found in Bario.

A key challenge remains the question of what types of farming the community should adopt. The Kelabit community is divided over the extent of mechanization, and most favour some sort of mechanical intervention. However, even those in favor of full mechanization concede that since the cessation of the project in 2018, the “break from Ceria machines” has led to an improvement in rice quality, as there is less mixing of grains that led to compromised quality and questionable authenticity (Kelabit Small Holders - Group 2, personal communication, November 2024).

The Khazanah report gives a good example of a profitable hybrid farming model, identifying a smallholder who controls her own seed stock, plants her rice by hand, but rents machinery for ploughing and levelling from Ceria (prior to 2018). She also manages the marketing of her rice, processing pre-orders and handling direct sales, pricing her rice at RM 20/kg in 2018 (Dr. Sarena Che Omar Jasmin, Siti Aiysyah Tumin, et al., 2018, p. 23).

Currently, several companies are exploring opportunities to develop Bario rice in collaboration with the farmers' organization, with ongoing negotiations (Kelabit Small Holders - Group 2, personal communication, November 2024). A number of farmers hope that the Kelabit people of Bario and future generations will continue to cultivate their fields for both personal consumption and a viable income. They remain optimistic and hope for an improved and sustainable model of farming that integrates the lessons learned from the Project, to deliver a successful future (Kelabit Small Holders - Group 2, personal communication, November 2024).



## CONCLUSION

The 2017 Report provides an overview of findings from field research conducted in October 2017, along with key recommendations proposed by James Ganendra for achieving the original objectives of the Bario Rice Project. The report was shared with Kelabit community leaders, including representatives from Ceria, and concluded that the project had reached a critical juncture. Specifically, it was noted that establishing clear and effective contractual terms could significantly enhance the project's potential moving forward. That report's key conclusion holds true now, namely that:

“Bario rice can become a cornerstone for rural development, but a more holistic approach is needed, one that integrates traditional cultivation methods with modern practices and addresses the socio-economic challenges faced by the community. Future projects must also incorporate environmental sustainability and local knowledge to preserve Bario's rich agricultural heritage (James Dennis Ganendra, 2017).”

The challenges faced by the Bario Rice Project offer valuable insights into the broader difficulties encountered by traditional communities when confronted with modernization. These challenges underscore the importance of meaningful and inclusive engagement with local communities to ensure mutually beneficial outcomes. In this case, the lack of such engagement has contributed to the project's struggles. The challenges faced by the Bario Rice Project provide critical insights into the broader difficulties that traditional communities encounter when adapting to modernization. These challenges highlight the necessity for meaningful, inclusive engagement with local communities to foster mutually beneficial outcomes and to also bring meaningful community investment, including cultural commitment, and participation. In this case, the lack of such engagement has significantly contributed to the project's difficulties. Greater involvement of farmers in the review and data-gathering processes would have been beneficial, particularly by allowing them to voice specific challenges they faced and concerns that they had. These approaches could have been facilitated through townhall meetings, consultations with village leaders, and comprehensive surveys, ensuring that the concerns of local farmers/owners were adequately addressed and incorporated into the project's decision-making processes;

The project under Ceria's management has now come to an end, and there is little awareness among the local community regarding its actual outcomes. Speculation and rumours abound, leaving many questions unanswered. One of the most pressing questions raised by the community is why the company did not remove its expensive machinery upon departing, leaving these resources idle and unused. This has further exacerbated the sense of frustration and disillusionment among the local farmers.

In retrospect, the 2017 study now takes on additional significance as it highlights the potential failure of the project and offers valuable lessons for future initiatives in the region. The study serves as a premonition of the challenges that arose and provides guidance on how such challenges could be avoided or mitigated in the future.

A key takeaway from the report is the importance of clear communication between all stakeholders involved in the project. Transparency and open dialogue are essential, not only to ensure a sense of inclusion among farmers but also to provide them with a clear understanding of the options available to continue supporting their livelihoods. Such communication is vital in sustaining both the local economy and the community's well-being in the long term, including for securing and effecting trademark protection for Bario Adan rice.

The findings emphasize that the future success of agricultural projects in Bario—and similar regions—will depend on fostering strong, collaborative relationships between local communities,

government agencies, and private sector partners. A clear, inclusive approach, grounded in mutual respect and understanding, is essential to achieving sustainable development outcomes for the Kelabit people and their rice farming heritage.

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## REFERENCES

- Bario Rice Enjoying New Lease Of Life. (2013, October 6). *Sarawak Post Online*. [https://sarawak.gov.my/web/home/news\\_view/1/3128](https://sarawak.gov.my/web/home/news_view/1/3128)
- Bario Rice: The jewel of Sarawak's highlands*. (2024, January 23). NST Online. <https://www.nst.com.my/news/nation/2024/01/1004767/bario-rice-jewel-sarawaks-highlands>
- Coates, K. (2015, July 6). Mechanization Brings Quick Change To Borneo Region Known For “Slow Rice.” *NPR*. <https://www.npr.org/sections/thesalt/2015/07/06/420504909/mechanization-brings-quick-change-to-borneo-region-known-for-slow-rice>
- Doreena Naeg. (2012, January 29). Bario rice – a rare grain. *Borneo Post Online*.
- Dr Sarena Che Omar Jasmin and Siti Aiysyah Tumin, Alyssa Farha Jasmin, & Siti Aiysyah Tumin. (2018, October 15). *Monograph of Paddy Smallholders in Bario, Working Paper 2/18*. Khazanah Research Institute.
- Giberti, J. (2019, May 3). *The Cultured Rainforest Project* [Text]. <https://www.arch.cam.ac.uk/research/projects/archived-projects/cultured-rainforest-project>
- James Dennis Ganendra. (2017, January). *The Bario Rice Project, Review and Brief*.
- Kelabit Farmer & Homestay 1. (2024, November). *Developments with Bario Rice* [Text].
- Kelabit Small Holder 2. (2024, November). *Farming after Ceria, Bario Rice* [Text].
- M. Janowski. (1991). *Rice, Work and Community among the Kelabit in Sarawak, Ph.D. Thesis, London School of Economics*.
- Marcus Raja, D. (2015). *Impact of the Introduction of Mechanized Agriculture on a Traditional Rice-Growing Community in Sarawak, Malaysia* [University of Guelph]. <http://hdl.handle.net/10214/9238>
- Petingi, G. (2019, October 23). Ministry probes claims of ‘fake’ Bario rice in market. *Borneo Post Online*. <https://www.theborneopost.com/2019/10/23/ministry-probes-claims-of-fake-bario-rice-in-market/>

President of Rurum Kelabit. (2024, November 27). *Ceria Bario Rice Project Discussion* [Phone].

Prime Minister's Department Malaysia: Performance Management and Delivery Unit (PEMANDU). (2012). *Economic Transformation Programme Annual Report 2011: Agriculture*. [http://etp.pemandu.gov.my/annualreport2011/12\\_National\\_Key\\_Economic\\_Areas-@-Agriculture.aspx](http://etp.pemandu.gov.my/annualreport2011/12_National_Key_Economic_Areas-@-Agriculture.aspx)

Thomas Hii. (2024, November 28). *The Bario Rice Project, Ceria's experience* [Conversation and Text].