Journal of Community & Communication Research
ISSN: 2635-3318
Volume 10; Number 1. June 2025
Accessible at: https://jccr.sccdr.org

EFFECT OF RECOMMENDED PRODUCTIVITY-ENHANCING TECHNOLOGIES ON THE YIELD OF SELECTED CROPS OF FARMERS IN CROSS RIVERS STATE, NIGERIA

Nwankwo, G. C., Ekumankama, O. O., and Apu, U.
Department of Agricultural Extension and Rural Development, Michael Okpara University of Agriculture, Umudike, Abia State, Nigeria

Correspondence Email: nwankwogodswill1990@gmail.com
Phone: +234 813 105 0159

ABSTRACT

The study determined the effect of recommended productivity-enhancing technologies of the Commercial Agriculture Development Project on the yield of selected crops of participant farmers in Cross River State, Nigeria. The study used 360 farmers. Data were collected through a structured questionnaire and analysed using descriptive statistics, such as frequency count, percentage, and mean. The findings of the result on socio-economic characteristics analysis revealed that 74.2% of the beneficiaries were males, with a mean age of 48 years, 44.4% attended secondary school, while 38.1% completed tertiary education. The mean household size was seven (7) persons with an average farm size of 7.52 hectares. The beneficiaries had a mean farming experience of 20.76 years. Results showed that after the project, farmers increased farm yields with mean yields of 580.38kg for cocoa, 32,495.08kg for palm oil, and 2,125.36kg for rice. The test of hypothesis indicated a significant positive relationship between adoption and yield. The study concluded that the rate of adoption of the recommended productivity-enhancing technologies of the CADP project significantly improved the agricultural productivity of participant farmers. The study recommended that the project be replicated in other states. Additionally, farmers are encouraged to join cooperatives to gain full access to agricultural productivity-enhancing technologies for a sustainable increase in farm yield.

Keywords: Commercial Agriculture, Commercial Agriculture Development Project, Yield, Productivity-enhancing technologies, Small- and medium-scale

INTRODUCTION

National Programmes to boost the Agricultural Sector include: the National Programme for Food Security, the National Fadama Programme, the Agricultural Transformation Agenda, and others. Despite these programmes and their intended objectives, the underlying issues that rural communities face, such as poor economies of scale, increasing cost of modern inputs, climate vulnerability, and poor access to enhanced agricultural technologies, inability of research co-creating solutions with farmers, many interventions ignore local contexts, poor linkages between research, extension, farmers, and markets. To tackle these underlying issues, a programme like the Commercial Agriculture Development Project (CADP) was essential.

Commercial Agriculture can be defined as a progression from diversified farming, where the farmer‟ intention is to produce goods for sale primarily for widespread consumption by others (FAO, 2010). The Commercial Agriculture Development Project (CADP) was a collaborative initiative of its kind in Nigeria between the Federal Ministry of Agriculture and Water Resources and the World Bank (CRSCADP, 2020). The Project represents a promising means for economic growth and development in many developing economies that depend on the agricultural sector. It emphasises a growing attention on agricultural growth and economic diversification away from the oil sector (Nnadi *et al.,* 2019).

The CADP project objectives include: foster sustainable economic development, reduce rural poverty, create employment opportunities, and encourage the adoption of both innovative and traditional technologies. The significant investments include subsidies for farmers to increase agricultural productivity, dissemination and adoption of productivity-enhancing technologies, and the development of road infrastructure and rural energy necessary for improving market access (Oloyede and Balogun, 2020). With the subsidies provided for farmers by the Commercial Agriculture Development Project, farmers could acquire sufficient land and modern technologies, such as hybrid seeds, hydroponics, seedling multiplication, fertilizer, etc., that might significantly increase productivity through economies of scale.

Despite the acknowledged importance of the agricultural programmes and the policies to Nigeria's economy, there remains a gap in understanding the direct impact of the government-led initiatives on the agricultural productivity of beneficiaries. The Commercial Agriculture Development Project (CADP) is one such initiative. In this regard, the broad objective of the study was to determine the effect of recommended productivity-enhancing technologies of the Commercial Agriculture Development Project on the yield of selected crops of participant farmers in Cross River State.

The specific objectives of this study were to ascertain the socioeconomic characteristics of the participant farmers, ascertain the level of adoption of productivity-enhancing technologies as practised by farmers, and estimate the yield of selected crops of farmers after the Commercial Agriculture Development Project.

METHODOLOGY

The study was conducted in Cross River State, Nigeria. The state has a population of 3,737,517 (NPC 2016 estimates). The population of the study consisted of all food crop farmers who participated in the CADP Project. The survey sample was based on the estimated population of the participants in the study area, which was 10,000 farmers (CADP Report, 2019).

In the study, three hundred and sixty (360) participant farmers were selected, using the multistage sampling procedure, consisting of purposive sampling, stratified random sampling, proportionate sampling, and simple random sampling. Two Local Government Areas were selected from each of the three senatorial zones using a purposive sampling method, which gave a total of six (6) Local Government Areas out of the eighteen LGAs; this constituted the first stage of the sampling. This was because the number of Commodity Interest Groups (CIGs) was greater in the areas. In the second stage, two CIG groups were randomly selected from each LGA, giving a total of twelve (12) CIG groups. In the third and last stage, using a proportionate sampling technique, based on the population size of each group, a sampling fraction ranging from 3.57% to 3.75% was used to randomly select the three hundred and sixty (360) participant farmers from the Commodity Interest Groups (CIG). The 360 sample size was determined based on the Small-Sample Techniques (1960) and Krejcie and Morgan's (1970) Table for determining sample size from a given population.

The study collected data with the aid of a questionnaire/interview schedule. The study used descriptive statistics such as frequency counts, percentages, and mean, and inferential statistics such as regression at a 5% level of significance ($p \leq 0.05$).

The farm yields were measured in Kg/hectare, and the level of adoption of productivity-enhancing technologies was measured with the mean adoption score. The mean was used to determine the level of adoption of the technologies involved in the study. In doing this, the four-point Likert rating scale was modified thus: Full Adoption (4), Trial Adoption (3), Awareness only (2), and Not Adopted (1). The mean adoption score was obtained for each of the technologies and scaled thus: > 3.00 (full adoption), 2.00 - 2.99 (trial adoption), 1.50 - 1.99 (awareness only), and < 1.50 (not adopted).

RESULT AND DISCUSSIONS

Socio-economic Characteristics of Participant Farmers

The result in Table 1 shows that the majority of the respondents (74.2%) were males. This implies that more males participated in the project than females.

Table 1: Distribution of respondents by selected socio-economic characteristics

Variables	Frequency	Percentage	Mean
Sex			
Male	267	74.2	
Female	93	25.8	
Total	**360**	**100.0**	
Age			
≤ 40	104	28.9	
41 – 50	120	33.3	
51 – 60	107	29.7	
≥ 61	29	8.1	**47.51**
Total	**360**	**100.0**	
Educational Level			
No formal Education	3	0.8	
Primary Education	60	16.7	
Secondary Education	160	44.4	
Tertiary Education	137	38.1	
Total	**360**	**100.0**	
Household Size			
2 – 6	52	14	
5 – 9	227	76.6	**6.62**
≥ 10	31	8.7	
Total	**360**	**100.0**	
Farm Size			
≤ 5	3	0.8	
5.5 – 6	11	3.1	
6.5 – 7	67	18.6	
7.5 – 8	222	61.7	**7.52**
> 8	57	15.8	
Total	**360**	**100.0**	
Farming Experience			
< 20	154	42.8	
20 – 25	106	29.4	
26 – 31	68	18.9	**20.76**
≥ 32	32	8.9	
Total	**360**	**100.0**	

Source: Field survey data, 2023

The average age of the farmers, 48 years, indicated that these farmers were relatively young and fell within the economically active or prime of productive age, and demonstrates that the project favoured the youth. The findings imply that most of the participants would be able to withstand the strenuous activities that were involved in crop farming.

The findings disclosed a breakdown of educational attainment among respondents. It was observed that 44.4% attended secondary school, while 38.1% completed tertiary education. This suggests a significant literacy level among respondents, potentially influencing their adoption of the CADP-recommended agricultural technologies. Results further showed that the mean household size was 7 persons, and 61.7% of them used between 7.5 – 8 hectares of farm land. The average farmland size used was about 7.52 hectares.

Most of the respondents (42.8%) in the study area had considerable farming experience of less than 20 years, 29.8% had 20-25 years, and 18.9% had 26-31 years. The mean farming experience was 20.76 years. The shift from small-scale to medium-scale commercial farming observed in the study area suggested that farmers had the necessary experience to participate in the Project and make informed decisions about resource allocation. The study confirmed the findings of Bako *et al.* (2020) that the average household size of farmers in northern and southern Nigeria is 8 and 9, respectively, but this can be constrained by the size of their cultivated land. The finding of the study on the farm size of respondents aligns with the observation of Philip *et al.* (2017) that agricultural interventions have had limited successes in terms of getting farmers to commercialize agriculture, partly because rural farming is carried out within a limited small farm size. A large majority of the farmers operate at the subsistence, smallholder level, with intensive agriculture being uncommon.

Estimated yield of the selected crops of participant farmers after the Commercial Agriculture Development Project (CADP)

Table 2 shows the estimated yield of selected crops after the Commercial Agriculture Development Project in the study area.

The result shows that 50.0% of the respondents had a yield of between 201 and 300kg of cocoa, 18.3% had a yield of between 301 and 400kg of cocoa and 14.7% had cocoa yield above 400kg before the Commercial Agriculture Development Project with a mean yield of 276.47kg of cocoa, while 85.0% had a yield above 400kg of cocoa and 10.6% had between 301 and 400kg of cocoa after the Commercial Agriculture Development Project with a mean yield of 580.38kg of cocoa.

The result further showed that 71.4% of the respondents had a palm oil yield of between 10,001 and 20,000kg and 18.3% had palm oil yield of between 20,001 and 30,000kg of palm oil before the Commercial Agriculture Development Project with a mean yield of 17,570.78kg of palm oil, while 55.3% had palm oil yield of between 20,001 and 30,000kg of palm oil and 38.9% had above 30,000kg of palm oil after the Commercial Agriculture Development Project with a mean yield of 32,495.08kg.

Table 2: Distribution of respondents by estimated yield in Kg/ha of selected crops of farmers after the Commercial Agriculture Development Project (CADP)

Crops Yield	Frequency	Percentage
Cocoa (kg/ha)		
100 – 200	5	1.4
201 – 300	11	3.0
301 – 400	38	10.6
> 400	306	85.0
Mean ($\bar{x}$)	**580.38**	
Palm oil (kg/ha)		
≤ 10,000	3	0.8
10,001 – 20,000	18	5.0
20,001 – 30,000	199	55.3
> 30,000	140	38.9
Mean ($\bar{x}$)	**32,495.08**	
Rice (kg/ha)		
≤ 1000	16	4.4
1001 – 1500	44	12.2
1501 – 2000	156	43.4
> 2000	144	40.0
Mean ($\bar{x}$)	**2,125.36**	

Source: Field survey data, 2023

The result also showed that 68.1% of the respondents had rice yield of less than or equal to 1000kg and 25.3% had rice yield of between 1,001 and 1,500kg of rice before the Commercial Agriculture Development Project with a mean yield of 920.95kg of rice, while 43.4% had rice yield of between 1,501 and 2000kg of rice, and 40.0% had above 2000kg of rice after the Commercial Agriculture Development Project with a mean yield of 2,125.36kg of rice.

These implied an agricultural diversification under CADP, and that most of the beneficiaries were increasing their yield after the CADP project in the study area. This could be attributed to the dissemination and adoption of proper agricultural practices, expansion of land holdings, access to fertilizers and quality foundation seeds, and access to other production inputs and Commercial Agricultural Development Project support services. Other factors include continued government support in providing accessible road infrastructure for the transportation of agricultural produce, extension services, and availability of credit facilities and other essential inputs to farmers.

According to Bako *et al.* (2020) study on the impact of World Bank-assisted CADP on the productivity of farmers, findings showed that after participation in CADP, farmers experienced an increase in the quantity produced. The study implied that CADP positively impacted farmers' yields. The result of this study also agrees with Obinna and Bassey (2021) that beneficiaries agreed that CADP activities were effective in the areas of increased yield and expansion of farm enterprises, with a mean of 2.33 and 2.48, respectively, above the mean cut-off point of 2.00. Also, Philip *et al.* (2017), whose study assessed the impact of the CADP and

reported significant changes in the crop production level, and that the project contributed to market access and commercialization and had an impact on commodity productivity.

Level of Adoption of CADP Recommended Productivity-enhancing Technologies as Practiced by the Participant Farmers

Table 3 shows that sorting and grading ($\bar{x}$ = 3.43), improved agrochemicals and soil fertility management ($\bar{x}$ = 3.16), spacing ($\bar{x}$ = 3.14), pest and disease management ($\bar{x}$ =3.05), nursery management and processing technology ($\bar{x}$ = 3.03) were the productivity-enhancing technologies fully adopted by the CADP beneficiaries, as the mean adoption scores are greater than 3.00, while pruning ($\bar{x}$ = 2.94), post-harvest management ($\bar{x}$ = 2.81), propagation of improved seedlings ($\bar{x}$ = 2.73), high-yielding crop varieties ($\bar{x}$ = 2.62), and water management/irrigation system ($\bar{x}$ = 2.55) were still being tried by the CADP beneficiaries, as the mean adoption scores are between 2.00 - 2.99. The result showed that out of the eleven technologies, six were fully adopted by the agricultural enterprises of the farmers. Thus, substantial adoption of productivity-enhancing technologies took place among CADP participants and was sustained within the period under consideration. The results indicate a grand mean adoption score of 2.95. This suggests that, on average, the beneficiaries of the CADP were at the trial stage of adopting the technologies introduced during the programme. This could be attributed to the importance the participants attach to the various technologies and perhaps the cost of adoption of proposed technologies.

Table 3: Distribution of respondents by level of adoption of productivity-enhancing technologies (N = 360)

S/N	Productivity-enhancing Technologies	Full Adoption	Trial Adoption	Awareness Only	Not Adopted	∑FX	$\bar{X}$
1.	Improved seedlings/high-yielding crop varieties	151(4)	38(3)	54(2)	117(1)	943	2.62
2.	Pest and disease management (bio-pesticides, crop rotation, and Integrated Pest Management)	146(4)	108(3)	84(2)	22(1)	1098	3.05
3.	Post-harvest management (fermenting, solar drying, electricity, packaging, storage)	172(4)	47(3)	42(2)	99(1)	1012	2.81
4.	Propagation of improved seedlings (optimal population of seedlings)	100(4)	81(3)	162(2)	17(1)	984	2.73
5.	Improved Agro-chemicals and soil fertility management (organic fertilizers, composting, and crop rotation)	202(4)	47(3)	79(2)	32(1)	1139	3.16
6.	Water management/Irrigation system	78(4)	108(3)	109(2)	65(1)	919	2.55
7.	Spacing	166(4)	102(3)	68(2)	24(1)	1130	3.14
8.	Pruning	173(4)	47(3)	86(2)	54(1)	1059	2.94
9.	Sorting and grading technology	233(4)	61(3)	53(2)	13(1)	1234	3.43
10.	Nursery management technology (seed treatment, pre-germination, raised bed nursery, sowing density, hardening-off process)	163(4)	72(3)	96(2)	29(1)	1089	3.03
11.	Processing Technology (Palm oil and kernel oil extraction, kernel cracking)	187(4)	56(3)	57(2)	60(1)	1090	3.03
	Grand Mean						**2.95**

Source: Field survey data, 2023

Scale: > 3.00 = Full adoption, 2.00 - 2.99 = Trial adoption, 1.50 - 1.99 = Awareness only, and < 1.50 = Not adopted. Figures in parentheses are ratings, while figures outside the parentheses are frequencies.

The result is in line with the findings of Ugbabe *et al.* (2017) who reported that farmers have, most of the time, used their seeds, which may not be improved or used improved seeds that have been in use for upward of three years without renewal and this can lead to low adoption rate. The study also reported high adoption of improved agrochemicals, soil fertility management, and crop spacing.

Furthermore, Ogbodo *et al.* (2021) and Nura (2022) observed a high rating in the adoption of improved crop varieties, crop spacing, fertilizer application techniques, and post-harvest technologies within the FADAMA programme and African Development Bank-Community Based Agriculture and Rural Development Programme, respectively.

Similarly, the study of Philip *et al.* (2017) and, Udensi and Nwosu (2019) observed that resource-poor farmers ascribe relevance of a technology to their felt needs and are conscious of the constraints associated with their farming enterprise in their efforts to realize their goals of production, income, security and conservation of their resource base. Therefore, they weigh the expected benefits of any recommendation from extension against these variables to determine its sustainability or otherwise before adoption. Only recommendations that give the highest promise of meeting such needs are fully adopted.

Effect of Adoption of CADP Recommended Productivity-enhancing Technologies on the Yield of Participant Farmers

Table 4 shows the result of the estimated linear regression of the relationship between the adoption of productivity-enhancing technologies and farmers' yield. The analysis showed that there was a positive relationship between adoption and yield; the "R" value of 0.648 shows a strong relationship. This also explained the fact that other factors outside of adoption influence yield. The coefficient of determination (R^2) of 0.421 with an F-value of 49.243 is, however, significant at the 1% level. Hence, the F-test rejects the null hypothesis that there is no significant relationship between the adoption of productivity-enhancing technologies and farm yield, while the alternative hypothesis is accepted. This result suggests that the productivity-enhancing technologies had a substantial influence on the farmers' yield.

Table 4: Estimated linear regression on the effect of the adoption of recommended productivity-enhancing technologies on participant farmers' yield.

Variable	Coefficient (β)	Standard error	t-value	p-value
Constant	58575.776	3024.978	19.364***	0.000
Adoption	-7003.560	998.034	-7.017***	0.000
R	0.648			
R^2	0.421			
Adjusted R^2	0.418			
F-ratio	49.243***			0.000
Sample size	360			

Decision: Null Hypothesis rejected at p ≤ 0.05

Source: Field Survey, 2023

This could be attributed to the adaptability of the technologies, the method of dissemination, household resources, and adoption costs. The increase in yield arising from the adoption of technologies shows that with greater adoption of necessary and affordable technologies, more could be achieved. Ugochukwu *et al.* (2020) and Shittu *et al.* (2019) posited that a positive correlation exists between the adoption of improved crop technologies and yield. Odoemelam and Nzeakor (2021) noted that full adoption is contingent upon the technologies being economically accessible, sustainable, and responsive to the felt needs of farmers. The study also posited that a lack of adoption may not stem from an inherent resistance to change or conservatism on the part of farmers, but rather from a variety of other factors. Consequently, the degree to which recommendations align with the specific needs of farmers correlates directly with the level of technology adoption, which in turn significantly impacts the crop yields. This alignment is crucial for achieving the objectives outlined in the Millennium Development Goals related to food security. In support of the findings of this study, Nura (2022) revealed a positive correlation between the adoption of technologies and crop yield among African Development Bank Community-Based Agriculture and Rural Development Programme Beneficiaries. Correspondingly, Ajayi *et al.* (2020) observed that the integration of extension technologies endorsed by experts plays a significant role in bolstering crop production.

CONCLUSION

The findings of the study in the effect of CADP-recommended technologies on the yield of cocoa, rice, and Palm oil showed a significant effect on the yield of the selected crops of participant farmers, contributing to improving the commercial farming of beneficiaries; and this mitigated the effect of the current economy on participant rural households. Therefore, the adoption of the recommended agricultural productivity-enhancing technologies is essential for sustainable commercial agriculture development, for increased food, feed, fibre, and fuel production; and improving income, poverty, and food security status.

RECOMMENDATIONS

The study recommends the following:

i. Future agricultural projects should include well-defined extension services to promote the dissemination and adoption of advanced productivity-enhancing technologies, and ensure timely delivery of associated inputs;
ii. The Commercial Agriculture Development Project should be replicated across states, capitalizing on comparative advantages, and should be designed in such a way that researchers could co-create solutions with farmers, considering the local contexts of farmers.

REFERENCES

Ajayi, A. M., & Adeoti, S. O. (2020). Adoption of improved agricultural technologies by cocoa farmer and effects on farm income: evidence from Ondo State, Nigeria. *Journal of Agricultural and Rural Research, 3(4), 140-157.*

Bako, A. Z., Onwuaroh, A. S., Akpoko, J. G., & Musa, M. W. (2020). Impact of World Bank Assisted Commercial Agriculture Development Project on the income and productivity of dairy producing farmers in Kaduna State, Nigeria. *International Journal of Agriculture and Development Studies (IJADS), 5(2), 12-20.*

Begho, T., Daubry, T. P., & Ebuka, I. A. (2022). What do we know about Nigerian farmers' attitudes to uncertainty and risk? A systematic review of the evidence. *Scientific African, e01309.*

Commercial Agriculture Development Project (CADP) Report. (2019). Commercial Agricultural Development Project - Retrieved from *www.cadpnigeria.com](http://www.cadpnigeria.com*.

CRSCADP. (2020). Commercial Agricultural Development Project - Retrieved from *www.cadpnigeria.com](http://www.cadpnigeria.com*.

Food and Agriculture Organization (FAO). (2010). The Business Model Approach for Agribusiness-led Development: FAO's Global Agriculture Information Network.

Fidelugwuowo, U. B. (2021). Knowledge and skills for accessing agricultural information by rural farmers in South-East Nigeria. *IFLA Journal, 47(2), 119-128.*

Ifenkwe, G. E. (2013). Adoption of technology. In: Agricultural Extension and Rural Development, Promoting Indigenous Knowledge. *Lamb House Publications. Pp. 64-72.*

Krejcie, R. V., & Morgan, D. W. (1970). Determining Sample Size for Research Activities. Educational and Psychological Measurement.

Nnadi, C. D., Nwajiuba, C. U., Onubuogu, G. C., & Nnadi, F. N. (2019). Factors influencing the commercialization of farmers' cooperatives under the Commercial Agriculture Development Project in Cross River State, Nigeria. *International Journal of Community and Cooperative Studies, 6(4), 12-27.*

National Population Commission (NPC). (2016). Population Projections in Nigeria. Abuja: National Population Commission.

Nura, A. Y. (2022). Spatial technology adoption amongst African Development Bank Community-Based Agriculture and Rural Development Programme Beneficiaries in Nigeria. *Nigerian Journal of Agriculture and Agricultural Technology, 2(1), 78-92.*

Obinna, L. O., & Bassey, J. I. (2021). Beneficiaries' Perception of Effectiveness of Rural Development Programmes: Cross River Agriculture Development Project, Cross River State, Nigeria. *Nigeria Agricultural Journal, 52(2), 155-159.*

Odoemelam, L. E., & Nzeakor, F. C. (2021). Factors influencing the adoption of improved vegetable production practices among women farmers in Aguata-Agricultural Zone, Anambra State, Nigeria. *Agrosearch, 20(2), 67-81.*

Ogbodo, I. H., Aguaguiyi, F. N., Nwafor, G. O., & Umebali, E. E. (2021). Determinants of Adoption of Improved Agricultural Technologies among Fadama Rice Farmer Cooperative Societies in Enugu State, Nigeria. *University-Led Knowledge and Innovation for Sustainable Development, 324.*

Oloyede, S. A., Olaleye, F. O., & Balogun, O. S. (2020). Impact of the Commercial Agriculture Development Project on Smallholder Farmers in Nigeria. *Journal of Agricultural Extension, 24(1), 1-11.*

Phillip, D., Ayanwale, A. B., Ohen, S., Oloruntoba, A., Ekwe, K., & Sanni, A. (2017). Impact assessment of the Commercial Agriculture Development Project. Executing Agency: Commercial Agriculture Development Project (CADP), Federal Ministry of Agriculture and Rural Development, Abuja, Final Report.

Shittu, A. M., Okuneye, P. A., & Olarewaju, T. O. (2019). Patterns and determinants of adoption of crop production technologies among food crop farmers in Nigeria. *Nigerian Journal of Agricultural Economics, 5(1), 100-108.*

Small-Sample Techniques. (1960). The NEA Research Bulletin, Vol. 38.

Ugbabe, O., Ahmed, B., Abdoulaye, T., & Kamara, A. (2017). Assessment of the rates of adoption of improved crop production technologies in the Sudan Savannah Agro-Ecological Zone of Nigeria. *NSUK Journal of Science and Technology, 6(2), 154-159.*

Udensi, E. O., & Nwosu, P. I. (2019). Impact of commercial agricultural development project on pineapple value chain in Enugu State. *Advance Journal of Education and Social Sciences, 4(12).*

Ugochukwu, A. I., & Phillips, P. W. (2018). Technology adoption by agricultural producers: A review of the literature. *From Agriscience to Agribusiness: Theories, Policies and Practices in Technology Transfer and Commercialization, 361-377.*

World Bank. (2005). Getting Agriculture Going in Nigeria. A Framework for a National Strategy Report. Number: 34618-NG.