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Agriculture Summit

General Themes and Some More Specific Recommendations from the Private Sector Presentations and the Group Discussions

Agriculture and its needs are relatively straightforward and, as Papua New Guineans have been engaged in production for local needs for some 9,000 years, they are highly experienced particularly at the production, if not the marketing, of a wide range of food crops. The sector now needs to face the challenges of producing and distributing to meet increasing local demand from growing rural and urban populations, and for potential export markets.

Agriculture's needs and challenges are more complex than most other industries, which experience the uncertainties of supply and demand and changing technology; agriculture is also influenced more than most by the vagaries of climate and seasonal conditions, plus shorter-term meteorological factors, as well as outbreaks of plant or animal pests and diseases, and the difficulties posed by having small independent producers so widely dispersed and dependent upon adequate basic infrastructure to reach all markets, except for meeting local subsistence needs.

Agriculture's immediate requirements in PNG are not, however, rocket science, but relate more to the provision of a suitable and consistent investment environment for farmers to make their choices and commitments, although good science and technology and access to suitable information and quality planting material and other production inputs, as well as suitable post-harvest and marketing support, also play an important part.

Farmers, like other businessmen and women, are seeking good returns to their labour and capital, so that their investment of time and effort, as well as money and land, is worthwhile. They would like good prices, but this is largely externally determined, with PNG largely a price taker in international markets, so much is dependent upon keeping costs of production and marketing down to be able to provide an adequate return.

So, determining the most appropriate roles and relationships between the producers and other industry players and the Government is critical for the prospects of agriculture and

the farmers of PNG: the Summit participants concluded that the role of the private sector, comprising large and small scale farmers and other industry participants, is to undertake the production and marketing and provide a range of support services, while the role of the State is the provision of critical public goods. It was recognised that the Government is currently very short of funds, following several years of budget deficits and unexpectedly low revenue, notably from the extractive industries, the Summit participants therefore emphasised that there should be no wasteful giveaways, and should focus on core functions of the state, letting the private sector (both large, small to medium and micro-enterprises) conduct business, which they're best able to do, assessing the opportunities and risks, whilst the State provides the public goods, including infrastructure, regulatory framework and focus on law and order and governance, but also some support for Research and Development and biosecurity and certain specialist services, such as quarantine and veterinary.

notably: -

- **Core Infrastructure:** the provision of reliable infrastructure is the fundamental requirement for farmers to be able to access markets, and other goods and services. The provision of basic transport access (notably main and access roads, wharves, rural airstrips is a precondition) is essential for all economic activity, beyond subsistence production, and needed also for the delivery of other public goods and services, including health, education and law and justice services. Other public infrastructure is also essential particularly for post-harvest activities and accessing markets, as well as extending growing seasons and reducing risks (e.g. from drought), including fresh produce markets and consolidation/ deconsolidation depots, water supply infrastructure (including for irrigation), power and ICT infrastructure. Some of these goods and services may be provided through some private or public-private partnership arrangement, or, as with major market depots, established by the State, but run by a cooperative or private business; sustaining the Infrastructure Tax Credit scheme was considered necessary for sustaining authorised road and other infrastructure, notably roads to outgrower settlement and village oil palm blocks, needed by farmers and rural communities for prompt delivery of goods to market, notably in the absence of reliable or timely provision of these goods direct by the State;
- **Sound and Transparent Sector Governance:** including
 - proper and legitimate appointment of commodity/industry boards, with full engagement of sector participants (grower/producer associations) in the selection and reporting process, as well as a sector/institutional reforms, to ensure participation and accountability, and
 - industry and independent oversight prevent the abuses of the past, including over use of public project funds, as with NADP and the awarding of funding to 'paper' or 'Waigani' farmers,
 - ensure open and competitive access for investment and to domestic and overseas markets (subject to compliance with industry standards), with no

exclusive trading arrangements or licenses awarded, i.e. producing, buying monopsonies, or selling/exporting monopolies to individual businesses/traders, as was being proposed hitherto for cocoa or rice,

- **Policy Stability:** ensuring the consistency of investment policies and rules, and thorough consultation with stakeholders, when these are reviewed and before introducing revisions; this includes policies/regulations related to SMEs and categories for inclusion under the category for reserved activities, export licensing arrangements, as well as Land laws/regulations. Clearly, reviews and amendments are periodically required, including to address major abuses, such as over the SABLs, which imposed a major abuse of customary landowners' rights, but also undermined genuine investment, but the processes must be open, consultative and transparent, to encourage/retain existing and future investment by credible and legitimate, small and larger, domestic and overseas investors in the sector;
- **Foreign Exchange Accessibility:** this has become a major issue for businesses in PNG, including agricultural enterprises, even those exporting crops and earning foreign exchange, but requiring imported inputs, for new or replacement investment or maintaining plant and equipment. (In the 2017 INA Private Sector survey of both agricultural and non-agricultural businesses the lack of foreign exchange has leapt to first place amongst perceived business and investment impediments, slightly worse than policy uncertainty, corruption, poor infrastructure – transport, power and ICT, and law and order, which have long been considered the worst impediments). Although different businesses hold different positions over their preferred exchange rate, availability of foreign exchange is the major concern for investment and ongoing business activity, apart from the expectation by foreign-owned businesses, to be able at some point, to be able to remit dividends overseas. How the Central Bank, with other authorities, address the Forex issue, is less the concern of agricultural businesses, but to restore confidence in the market and encourage investment and reinvestment to resume requires that market uncertainty is addressed without delay, which infers that the adjustment should be undertaken without delay and not over an extended duration. Clearly to be sustainable it must be market driven, with currency inflows and outflows, more or less in balance, including covering the backlog, with adequate exchange rate stability also required to sustain investor confidence;
- **Land Management:** most land in PNG is under customary tenure, with only around 3% allegedly under State title. Governance of the State, or alienated land, has long been deficient and lacking transparency, with multiple titles sometimes being provided and backdoor allocations prevalent, undermining titles, security and investment; (the INA 2017 Business Survey finds corruption in land transactions to be the most prevalent form of corruption to be undermining business and investment from proceeding). The provision of reliable and indivisible land title is essential to formal sector agriculture, including producers on oil palm or rubber

settlement blocks, but also for most investment in downstream processing and agricultural marketing in urban or rural locations. For village or smallholder producers using customary land, they need security against land grabbing, notably under illegal and unauthorised SABL arrangements, orchestrated by outside developers, in collusion with public officials and maybe some local leaders or alleged landowners. Legitimate arrangements for communities to set aside some land for more commercial agriculture by their own corporate entity or on some partnership basis, with adequate land tenure security, including to assist in accessing credit, is valuable, but only on the basis of free, prior and informed consent having been provided.

It was agreed that land management must be undertaken in a fully transparent manner and in compliance with the law, with public access to and oversight of land transactions and titles, prompt and efficient issue of lease titles to holders of agricultural blocks (in oil palm and rubber blocks), but that the deadline for incorporation and compliance of ILGs over land designated for agricultural or other land-uses be extended for a reasonable period (e.g. 2 years) to allow required processes to be completed (including provision of personal identification etc). Effective land dispute mechanisms, including land mediation and reconciliation, must be accessible, with disputes addressed promptly and not left festering unproductively for years.

- **Law and Order:** peace and security are fundamental requirements for agriculture and agricultural marketing, especially for women's engagement in production and down the market chain. This entails freedom from threats of violence and damage to industry participants and their crops, livestock and equipment, as well as prevention, detection and penalties against crop or plant theft. The application of law and order, along with good governance, are fundamental to economic investment and development. Law and order problems contributed to the demise of much of the plantation sector, particularly in the Highlands provinces, especially when combined with other factors raising costs and lowering returns, such as low prices, pests and diseases etc. They have also undermined the prospects for extensive other agricultural innovations and other economic opportunities, including by smallholder producers and traders. Providing solutions to crime and violence, including Gender-based violence (GBV), is clearly no easy or overnight task, but it remains critical and must be progressed, starting with major and cooperative effort between government, churches, private sector and wider civil society, not just through law enforcement agencies, but also by educators, community leaders and parents working in unison, and starting with instilling basic commitment to principle of the rule of law. Crime is partly a reflection of limited economic opportunities, high living costs and growing income and social disparity, and part of the solution in turn must focus upon increased employment and income earning opportunities, in both the formal and informal sectors, notably in agriculture, and through driving the cost of living down

- Nature of Agriculture and Sector Support:** It must be recognised that agricultural production in PNG is largely conducted by smallholder farmers on their customary land. Relatively high production costs tend to preclude against the estate model, except when prices are high, and with very efficient production systems, high yielding crops and pest control, and secure land tenure. Smallholder production can be efficient and provide sound incomes, but without some of the higher cost structures entailed with largeholder operations. Most smallholder cash crop and other production for markets has low yields and returns, but there is considerable potential to improve yields and returns, and provide for the needs of a growing population of rising aspirations, given investment in good planting material and intensification, more effective pest/disease prevention and control, better post-harvest handling and marketing, including providing higher grades and speciality products. Government's main focus must be on supporting the smallholders who provide the bulk of production and make up a large portion of the total population, with their families and dependents. Providing suitable support for smallholder agriculture production necessitates the provision of effective research and advisory (or extension support), helping enable some of the opportunities available to largeholder producers through economies of scale, notably during the post-harvest and marketing of production, through access to market information, consolidating production and marketing (through cooperative or other arrangements), access to financial services (including savings, credit and insurance). Traditional provincially-based extension and support arrangements, prevalent until the 1980s, became inadequately supported financially or administratively, and ineffective. They were partly replaced by support provided partly from grower contributions through extension levies (or cess), but this mechanism was also being undermined by poor management and weak oversight, including political interference and unaccountable boards. Different systems to provide effective support to outgrowers have been developed, including the agro-nucleus estate model, and other productive partnerships with private sector partners, as applied under the World Bank-financed Productive Partnership in Agriculture Project, PPAP, in cocoa and coffee;
- Agro-Nucleus Estate Model:** The agro-nucleus model can be applied successfully larger estates that also support, but also benefit from a partnership with outgrower producers, in the provision of planting material, technical and support, marketing outlet and a range of other services, including financial, whilst increasing the throughput through their mills. This applies in oil palm, where it has long applied relatively efficiently, although with room for improvement, but it can also be applied to other crops, sometimes on a relatively small scale, where a nucleus enterprise has a new crop or specialist product, such as in spices or essential oils, fresh produce or livestock, and provides technical and other support to outgrowers, including in the marketing of their output.

For agro-nucleus estate support, it remains critical to keep funding arrangements transparent and accountable, particularly after the misuse of funds and setback for

the sector from the NADP in the 2000s and the planned, but discontinued, Agro-nuclear Enterprise project, with ADB, in the 1990s, which also put off development partners from engagement with Government in the agriculture sector.

- **Partnerships, including PPAP:** consistent with the model of agro-nucleus estates, the Summit endorsed the principle of partnerships between smallholder farmers, through collectives or groups of them, supported by successful private sector partners (which could be estates, or businesses with existing processing or exporting capacity or in some cases NGOs) that provide skills and capacity for training, improved planting material and marketing support. The Productive Partnership in Agriculture Project, PPAP, which has been successfully applied since 2011 with cocoa and coffee, plus some crop diversification, entails a competitive selection process to meet standards, an interim grant arrangement, combined with counterpart contribution and process of some oversight, but is essentially designed to bring private sector skills and capacity together to meet objectives of improved output, quality and farmer returns, replacing more traditional forms of production and marketing extension. The model could be adapted to other crops and incorporate more use of credit to complement and partly replace the grant input, to ensure greater sustainability and replication, but imposing a greater administrative burden on the partnership. It entails minimal input by government entities, notably project management units attached to respective commodity boards/corporations, to oversee the selection and standards, as without these, the scheme would be ineffective.

Other partnerships sought by the Summit, entailed better coordination between government department and agencies, including DAL, Transport, Planning, Lands, OPIC, NAQIA and other commodity organisations, Provincial and District authorities, and with industry associations, to ensure better coordination of priority programs and processes, including timely maintenance or restoration of transport infrastructure, addressing land title issues and disputes, pests and quarantine/phyto-sanitary protection (from introduced plant or animal exotics, pests and diseases, including from uncooked poultry etc);

- **Biosecurity and Cooperation:** Papua New Guinea comprises a series of tropical islands which have been perhaps surprisingly free of a range of serious plant and animals pests and diseases prevalent in tropical crops and livestock in other parts of the world, (although PNG harbours some of its own, as with sugar, which other countries have sought to avoid). Many exotics have accidentally, or sometimes intentionally, gained a foothold in PNG and various diseases have made their way here, by different means, including latterly cocoa pod borer and coffee berry borer. It is critical that PNG takes seriously the threat of such introductions, with the major ensuing cost to PNG's farmers, the country's wider economy and natural environment, and therefore maintains the highest vigilance and where necessary pursues appropriate eradication or control measures, where introductions do occur. This requires the highest level of cooperation between authorities, farmers and

industry associations, and the wider public, including through effective awareness, preparation, capacity and responsiveness.

- **Skills Development:** supporting the right range of skills needed by the sector, in consultation between planning and educational institutions and agricultural sector organisations. The sector's needs range from scientists/researchers, to veterinarians and other livestock specialists, farm managers and specialists, advisors/extension staff, food and processing technicians, TVET teachers, including for business development, etc, to cater for the range of generalist and specialist requirements of producers, post-harvest and marketing and processors, engaged in both largeholder and village-based agriculture, including the requirements of adult literacy and numeracy, to support sector participants, including for financial inclusion and competency and business development.
- **Market Chain:** Facilitating producers, individually and collectively, to be able to improve access through the market chain, including reducing intermediary costs, and where possible going direct to the market, and cutting out layers of middlemen. This is largely the role of the private sector itself, but facilitated by the State in terms of application of fair competition, and, conversely, in some cases consumer protection laws, supporting initiatives to empower producers through better access to market information (including through better and more competitive ICT) and productive partnerships (as with PPAP), as well as the provision of improved market facilities, sometimes publicly owned, but privately operated, including through producer-owned cooperatives/organisations.
- **Sector Finance, including Credit Guarantees and Financial Inclusion:** Financial institutions are providing commendable new products to encourage financial inclusion and wider services, but even with mobile phone banking (mobile wallets), the service cannot be fully extended into rural areas without active support from the State, as clients and agents, still need to access physical branches to conduct some transactions, including to open an account initially. So once again, focus on infrastructure maintenance and basic transport access and law and order remain crucial. Most agriculture cannot take high interest rates on its tight margins, and with high production risk ever present, especially when borrowing over long periods. Commercial banks are risk averse, and have avoided agriculture since the early 1990s. Dialogue with the banks and producer associations should be ongoing to develop ways to enable financial institutions to engage more substantially in agriculture and agricultural lending, notably on the basis of client/business track record. Credit guarantee arrangements entailing the State should be avoided, but some risk sharing arrangements, as with the IFC facility, should be explored, if it enables banks and financial institutions to re-engage in lending or other sector support. In the meantime the State can assist in reducing the costs of doing business and risks to farmers and financial institutions, through better addressing law and order, improving literacy and business skills, research and disaster preparedness, etc.

Lending by agricultural processing and trading companies, and other corporates, to producers, accessing international finance (as conducted by Outspan and others) is encouraged, with larger the larger businesses having connections and taking some shared responsibility with their associated small farmers) especially where the domestic financial institutions remain reticent to lend or provide other capital.

- **Premium Standards, Downstream Processing and Value Adding:** Premium returns to farmers should be the priority by gaining extra value from the output, by achieving higher quality of produce or adding to its value further, whether as fresh produce or through processing into different products. This entails maintenance of high quality from production right through improved post-harvest, any further processing and marketing to the end user, achieving premium grades, including from certified or specialty produce (including through RSPO, organic and other quality standards), with minimum loss from waste, or deterioration and meeting high social and environmental standards. Value-adding is the priority, rather than explicitly downstream processing, although this may be involved, where it adds value and local employment, such as manufacturing cocoa through to quality chocolate, refining palm oil or production of essential oils, and dairy products. Caution should be taken, however, not to undermine value, where domestically processing a quality product, such as Arabica coffee green bean into instant coffee, may reduce rather than enhance the value and hence undermine the return to the farmer;
- **Advisory Services:** after a severe contraction of extensions services from the 1980s, the Summit supported the initiative to move advisory, or extension, services to those best able to provide in an accountable and cost effective manner, including in some cases to productive partnerships (as with PPAP), or other the private sector partners (as with Hargy Oil Palm and various poultry producers, such as Mainland Holdings and Zenag with their outgrowers), with the State entities, such as CIC, OPIC and provincial DPIs and Commerce Offices concentrating on core training and support functions.
- **Corporate Social Responsibility and Corporate Support (including transfers from the mining/oil/gas sector):** Consistent with the agro-nucleus enterprise model, active support from larger corporations, including in the extractive industries, can and has played a valuable role in supporting smallholder and some larger agricultural businesses, in providing markets for their produce, or supporting innovation, production and marketing support, and even investing directly in agricultural businesses, including in biomass production for energy provision with local communities. This is to be commended and encouraged, both under mandatory corporate social responsibilities of the firm (including ecological offsets), but also when going a step further in trying to widen skills and economic opportunities for the communities in the vicinity of their project, using capacity that is more readily accessible to a central firm than to isolated rural farming households. Government,

particularly as project licensor, should actively promote such arrangements, together with the use of the Infrastructure Tax Credit Scheme, where the community benefits are tangible, entail local consent and support, and verifiable.

- **Sector Investment and Financial Institutions:** in addition to corporate support to smallholder or village farmers, the Summit recommended a major reinvestment of the proceeds from the extractive sector (when that materialises) into agriculture and other sustainable industries, primarily through the State providing conducive investment conditions (as highlighted above), notably, good governance (including over land tenure, board appointments etc), sound law and justice and infrastructure, human resource development, a competitive environment without monopolies, but also through availability of some finance and capital investment, notably through suitable conditions for PNG corporates and financial institutions to lend and invest, and the State providing a cost effective and competitive facility to assist with innovative start-ups, but only through a very transparent and accountable process, learning from donor-funded mechanisms, such as the ARDSF, and avoiding the costly mistakes of the NDAP.
- **Trade Protection, including Freight Subsidies:** generally, tampering with markets, with protective barriers and subsidies, can prove distortive (assisting some businesses and households, whilst handicapping others), administratively cumbersome, costly and sometimes counterproductive, especially if reciprocal trade restrictions are imposed by PNG's trading partners. Tariffs or other trade restrictions on imported foods, especially staple foods, can push up living costs, including for the poorest and most vulnerable. Having the right, and especially lower exchange rate, can provide a more effective and less distortive mechanism to encourage local production and restrain imports. However, it was agreed by participants at the summit, that in some cases, notably for very isolated communities, some well-planned and overseen freight subsidy arrangements, by government entities or large businesses, can be justified, especially when using partnerships, including back-loading of goods vehicles or vessels, as with North Fly Rubber and OTML for many years. Of course, when drought or extreme conditions prevail, all measures must be applied to address the issue promptly and on the basis of reliable data,, including well administered local and international food and financial assistance.

Conclusion: Returns and Cost Cutting: at the end of the day, it is all about enabling the farmers to be able to make good returns, to make it worthwhile for them to invest in production on their land. For the State this entails assisting the farmers to secure attractive prices and cutting their costs, including risks of production, processing and marketing, through reliable transport and marketing infrastructure, law and security, access to competitive markets, training/advisory services, suitable research (for high yielding, disease resistant planting material, etc) and enabling financial services (including the sector having

access to foreign exchange), as well as suitable macroeconomic conditions, including a competitive exchange rate that provides sound income in kina for farmers from exports and encourages import replacement.

Specific Issues and Recommendations by Agricultural Commodity and Theme

Cocoa

- **Issues and Constraints:**

1. **Governance:** poor governance and accountability of the key institutions responsible for the industry (notably the Cocoa Board, Cocoa & Coconut Institute, KIK and DAL), have taken their toll on the cocoa (and associated coconut) industry's prospects and performance over many years; with the growers' views and interests largely side-lined, including in appointments to Boards and other industry bodies, the drawing up of industry plans and institutional reviews and changes, and the application of public funds and growers' contribution in levies, which have been widely misused; this needs to be turned about, with the producers' best interests given priority, rather than the interests of individual bureaucrats and others.
2. **Research and Development/Extension:** despite capable and committed crop researchers, research has been undermined by the interests of some officials/administrators sometimes overriding the interests and engagement by the growers themselves, with institutional changes and funds for disease control and sector development diverted to private interests. The PPAP model has, however, refocused attention, through a competitive grant and partnership support mechanism, back to the farmers' needs and priorities
3. **No Clear Line of Demarcation between Stakeholders:** responsibilities are poorly spelt out between the different industry bodies, including the reporting mechanisms; they need to be clearly structured and growers actively engaged with the industry regulatory and support bodies, in ensuring that they're focused on the needs of PNG farmers, and that research and extension complement each other, and with other services, such as quarantine and for pest and disease prevention and control.
4. **Lack of Credit:** since the end of the 1980s, there has been almost no credit available and especially needed longer term and low cost credit as required for agricultural development, and only available, if at all, for on penurious conditions for agricultural trading.
5. **Infrastructure:** reliable all weather transport access, notably by road and sea, are critical for cocoa production and associated crops, particularly as cocoa doesn't readily store, as copra does, for example, for a while.
6. **Availability of Certified Hybrid Clones:** this entails ongoing research and development of suitable high yielding, disease resistant clones, and then ensuring adequate multiplication and accessibility in adequate quantities to meet farmer needs, combined with suitable farmer training, as necessary in the field. This requires partnerships and active engagement of the private sector, as well as the research stations. While demand has been better met in some areas, and supported by certain programs in certain provinces, it has been relatively deficient and unsupported in others.

- **Recommendations**

1. **Strong Grower and Industry Representation:** notably, proper and timely Cocoa Board and management appointments for Cocoa Board, in compliance with the Act, and for the Cocoa and Coconut Institute (or its successor: although as complementary crops, the Institute should remain a unified, rather than subdivided entity); Grower representation on the Board, to be made through genuine representative bodies, notably the Growers' Association and their provincial branches.
2. **PPAP Model to Continue and Expand:** the PPAP has by-passed the traditional blockages and helped stimulate rehabilitation, though access to finance, materials and partnerships with experienced industry players. This program should be extended and expanded, providing leverage for the provision of credit, including to increase the sustainability of the model
3. **Low Interest Agricultural Loans:** cocoa, as with other agriculture, needs long term finance and low interest rates; provision of security to the financial institution is generally unavailable, therefore, other arrangements must be in place to enable the financier to be aware of creditworthiness and reliability of the prospective borrower, and for farmers and others in the value-chain to access good financial and business literacy and training.
4. **Government to Fix/Maintain Roads/Bridges etc:** Coordination of funding, particularly for infrastructure maintenance and appropriate restoration and upgrade, where needed, is required between the National and provincial agencies, but also at the District and local level, notably using the DSIP funding, as well as prioritising using industry specific funding under the PPAP. The roll out of affordable, sustainable and reliable power and telecommunications is of importance for farmers and traders, and for sustaining rural households and communities.
5. **Maintain Quality and Consistency:** provide effective research and extension for cocoa and associated crops, notably coconuts, and adequate quantities of hybrid clonal planting material, using accountable industry organisations and through private partnerships; with research undertaken in a complementary, rather than subdivided manner (notably by CCI), with adequate funding from the government, complementing the contribution from the industry itself. The funding to be cost effective and accountable, with growers' engagement with the institute in determining research and extension priorities, activities and oversight. Use of the PPAP partnership model of extension is effective, but needs to be sustained and extended in some form to other producers and participants in the market chain.
6. **Freight Subsidy/Input Subsidies:** these should be provided prudently and sparingly, to avoid exorbitant waste, including from potential abuse. However, tightly administered freight subsidies can have a part to play for more remote locations, to help stimulate production and trade until throughput reaches a more commercial threshold; it can also be a suitable social economic expenditure by the resource sector in generating local

employment and income earning opportunities, not provided by the extractive industries themselves. Free inputs tend to be poorly used/safeguarded, whereas subsidisation of critical inputs, including planting material, can provide a valuable industry stimulus, even while avoiding caution should be taken to avoid providing distortions and stimulating inappropriate or unsustainable technologies.

7. **Unlocking Unused Government Land/Government Agricultural Land to Companies or Individuals to Develop for Agricultural Projects:** better administration of State land to clearly identify tenants and usage, and allow prompt issue of titles or title transfers in the case of unimproved or poorly used land.

Coffee

- **Issues and Constraints**

1. **Infrastructure:** much coffee going to waste as road, bridges and rural airstrips have deteriorated, impassable or unusable. Power provision unreliable and costly in main centres and virtually non-existent away from them.
2. **Law and Order (Land Tenure):** law and order problems, from tribal fights to other violence, including during election periods, theft of produce, or sometimes even displacement from property, as with some estates, undermines business and, especially, longer term investment
3. **Appointment of CIC Board as per the CIC Act:** lack of governance and adherence to the CIC Act and proper process in appointments, with undue political interference, over many years have handicapped management, operations and accountability in industry matters, including affecting research and extension.
4. **Access to Credit:** virtually unavailable since the late 1980s, when coffee prices fell and much plantation land reverted to customary or other ownership. This requires new models of tenure security, links to business skills, integrity and performance, maybe leveraging off support schemes, such as PPAP or other partnerships to reduce the risks entailed.

- **Recommendations**

1. **Maintain and Improve Infrastructure, including Roads, Ports etc:** focus public funds, including from dedicated user charges taxes (e.g for NRA), on core maintenance and restoration of existing transport infrastructure, and then priority upgrades where increased usage and safety demands; this includes main roads and access roads, plus ports/jetties and rural airstrips.
2. **Law and Order and Land Tenure – Enforce Laws with Adequate Policing:** priority on restoring law and order and the principles of good governance, entailing trained, disciplined and accountable police and justice system, including well-supported village court system; correct application of the Coffee Act, including adherence to due process in board and staff appointments and operations (i.e. no wantokism and political interference).

Transparency, accountable and enforced land titles on State land, and effective mediation and dispute resolution over customary land.

3. **Rehabilitation + Extension Services to Growers:** adequate funding and capacity, and accountability over funds, for effective research, including disease control and extension and advisory services, and extension of the PPAP model for effective engagement and partnerships

Oil Palm

- **Issues and Constraints**

1. **Land Titles:** these are very slow in being issued or transferred by Lands Dept, potentially jeopardising farmers' access to services, including the right to sell as legitimate RSPO producers
2. **Legislative Frameworks and Structural:** disruption with illegitimate OPIC Board appointments and concerns over undue State extension and potential interference in a functioning industry, and applies high standards, with concerns over added costs associated. However, the unregulated component of the industry, operating largely from land/forest grabbing from customary owners (even on household cocoa plantings) on illegal SABLs and non-compliant with RSPO, is a major concern, and undermines market reputation for PNG overall.
3. **Infrastructure:** poorly maintained transport infrastructure, including seasonal damage to bridges (plus other communications and power) undermine oil palm production and marketing, especially as oil palm needs prompt delivery to market.
4. **Poor Extension Services:** OPIC provides some valuable industry support, but its extension services tend to be less resourced and are less effective than needed by the growers. The privatised services provided by Hargy oil palm to its outgrowers seem to be more effective and have raised farmer output and incomes
5. **DDA??** The establishment of DDAs seem to be creating uncertainty over responsibilities and further eroding coordinated infrastructure and service delivery. Maybe they could provide a constructive contribution if they work with the local communities and the industry and prioritise budget allocations in response to consultations and need.

- **Recommendations**

1. **Review of OPIC Act:** firstly ensure that the Act, including board and management appointments are being complied with properly and in a timely manner. Review OPIC and the Act to ensure that it fulfils the requirements for the industry and its outgrowers, some 25 years after it was established; ensure that this process is undertaken by the key stakeholders, notably the outgrower farmers that it serves, together with industry, as a whole, and government.

2. **Privatise Extension Services:** OPIC was established to improve and make extension services more responsive to the growers than hitherto under DAL. Now, extension services are being piloted by Hargy Oil Palm, with seemingly positive results in terms of costs and improved service. This new industry funded model could be extended more widely, and its effectiveness and accountability monitored.
3. **Retain and Increase Infrastructure Tax Credit from 1.5-2%:** the ITC system should be retained to enable critical road and bridge infrastructure is maintained and, where necessary, upgraded to ensure reliable access for outgrowers to the market (notably for their oil palm to the mills); the process must entail outgrower and provincial government engagement/oversight, to help ensure funding is used for priority infrastructure needed for outgrowers.
4. **Cooperation and Collaboration between Stakeholders:** the oil palm industry is dependent upon trust and cooperation between the different stakeholders, especially the outgrowers and other customary landowners, milling companies, but also company employees, national, provincial and local authorities. Maintaining strong systems for ongoing dialogue is critical, including prompt issuing and transfer of lease titles, timely maintenance of infrastructure at least to minimum standards, consistent application of the pricing formula and RSPO standards. Bringing the non-RSPO members into line with national standards for the Palm Oil industry is a priority, together with halting all acquisition of customary land, without free, fair and informed consent, in line with PNG law (i.e. land grabbing, including logging, undertaken in the name of oil palm development), with penalties applied where abuse occurs.
5. **More Local Content (BSA):** encourage greater local processing, where it adds value, and encourage more local content in the production phase, and of the industries output for other local industries

Rubber

- **Issues and Constraints**

1. **Freight Costs:** most rubber is grown in relatively remote parts of PNG. Trying to bring the transport and other costs down is critical, together with building up supply to achieve economies of scale in production and processing. Major producing areas of Western province have been dependent upon freight subsidy from the Ok Tedi mine, including through back-loading of vessels;
2. **Extension Services:** government agricultural (and land title) services for rubber growers more or less ceased in the 1990s, with extension provided notably through cooperative arrangements, as with North Fly Rubber, but again heavily dependent on funding from the extractives (notably OTML, PNGSDP).
3. **Policy and Regulations**

- **Recommendations**

1. **Freight Subsidy:** some level of sustained or interim freight subsidy can be justified, especially for remote communities, on economic and social grounds, enabling economic and welfare benefits, and including until production reaches levels where costs are brought down, and perhaps local processing and value adding occurs. This is particularly the case where extractive industries provide limited direct employment and other benefits, but can extend opportunities, notably under their social license to operate, through agricultural activities
2. **Multi Disciplinary Extension Approach (Privatise Extension Using Agro-Nucleus Enterprise Model):** extension needs to be provided on a privatised/semi-privatised basis through the local agro-nucleus/cooperative enterprise, linked to a larger producer, as with Galley Reach or cooperative structure and processing facility, as with NFRL,
3. **More Mid-Stream and Down-Stream Processing:** this should be the objective where it can achieve value-adding, and hence improved industry viability and sustained farmer incomes
4. **Spread Money from Extractive Industries to Agriculture Sector:** particularly for more remote areas, where available, ongoing, or interim funding support from local extractive enterprises, under corporate social responsibility, is required; it could also potentially be undertaken through a State facility, e.g. from a future fund/ run as, or associated with the SWF in due course, or perhaps via Kumul Petroleum/Minerals; it should, however, be fully transparent, and reflected in the annual budget, rather than as quasi-fiscal transfers
5. **Review Rubber Act and Policies:** this is overdue, to ensure that it meets the industry's current needs, and should be undertaken fully in full consultation with and for the benefit of the current and potential growers; the review should consider whether the Act is being applied, whether it, or various of its provisions, are even relevant any more, whether the Board might even be merged with another entity or the legislation even be repealed or just amended

Fresh Produce

- **Issues and Constraints**

1. **Building upon Successful Models:** these are both domestic models (e.g. private sector support to producer, and consolidation models, good urban markets, as in Kokopo, etc) and those from overseas, such as main market facilities in many major cities overseas, maybe built by the State initially, but run by the producers and/or trading networks, maybe as cooperatives on behalf of producers/traders. Use models, as highlighted in the recent Fresh Produce Workshop in Goroka (with FPDA and CIMC) and the draft action plan prepared as a result.

2. **Coordination:** poor coordination, and even rivalry and dispute, notably between officials especially and politicians have undermined the provision of urban market facilities in major town in PNG (including preventing development assistance and use of DSIP-funded facilities). It requires openness, and dialogue at the national, down to the provincial and district levels and between private sector, including farmers, including, or especially women famers/traders, in the planning of the system and the management and maintenance of facilities and support services along the value chain, including education and training, standards, phyto-sanitary to develop an export trade, etc.
3. **Transport/Access:** poor transport and communications (notably roads, bridges, port facilities, suitable sea and air-services, but also reliable and affordable telecommunications), and associated marketing infrastructure: markets, depots, power etc), are the major handicaps to the development of fresh produce production and local supply and even exports.

- **Recommendations**

1. **Market Information Platform:** building on FPDA's initial market price information service, funded under the AusAID-funded Agricultural Information Grants Scheme (AIGS), build an information platform for producers and other industry stakeholders on production issues, output and availability and prices from supply to main centres, and on traders, shipping, buyers, including through to overseas markets
2. **Feeder Road Improvement:** provide adequate regular funding for a program of extensive upgrade to reliable all weather standards, and then maintenance of the access roads to local centres and then, in turn for main roads and bridges, through to ports, utilising national and locally available funding, including under DSIP and from development assistance/concessional funding, including availability of routine maintenance/basic restoration funds, notably through a sustainable mechanism, notably the NRA model using collection of dedicated road user levies. Ensure farmer and agricultural trader participation on local planning and the transport/infrastructure boards (Including DSIP, RTA, NRA etc)
3. **Market Authorities (Use 'ENB' Model):** establish effective market arrangements, such as East New Britain-style market authorities, including substantial producer, including women's membership, from urban markets, with perhaps major city markets funded and initially owned by the State (with development partner support), but run, as in the city markets overseas, by cooperatives or companies owned by producers and fresh produce trading companies
4. **Consolidation Depots (notably in Lae), in Partnership with Logistics Companies:** establish wholesale consociation and deconsolidation depots in main producing, trading and transit centres, again with state input/initial

ownership, but in partnership with, and run by the private sector, but open for all users

5. **Work with Shipping Companies to Maintain Cool Chain:** cooperation is the priority in facilitating reliable, affordable shipping between main centres/depots, including use of refrigerated containers on highways, in ports and on vessels, providing a regular service and suitable back-loading to keep costs down.

Livestock:

- **Issues and Constraints:** support to large and smaller private sector operators has been largely overlooked since the more active days of DPI/DAL and the Livestock Development Authority in the 1980s/early 90s. Since then very little assistance has been available with the diminution of cattle herd size, loss of specialist staff (including veterinarians). With relatively low levels of disease prevalent in PNG, and some good producer conditions, the industry has good potential both to meet local demand and for exports, particularly using the agro-nucleus production and marketing model; however, the industry requires a range of largely generic support.
 1. **Genetic Improvement:** the PNG herd/stock needs to be substantially upgraded for higher yields and stocking rates, and adaptation to different local conditions, as well as to avoid inbreeding. This requires:
 - **Import of Semen** facilitated and properly supervised
 - **Import Restrictions** breeders selected and introduced, under close scrutiny to ensure pests/diseases kept out and introductions monitored upon arrival
 - **Live Animal Import - Outdated Protocols (1975)** requires review with suitable industry and wider professional and independent input
 - **Limited Capacity in NAQIA (Slow Response, No Knowledge on Latest Developments)** reinforced NAQIA capacity, and enable NAQIA to collect and retain adequate funds for its own operational purposes and for additional monitoring and emergency work. Ensure NAQIA board appointed in a timely manner in accordance with the Act, with good industry, consumer and independent professional membership
 - **Import Risk Analysis: very Expensive to Industry** provide suitable funding to support risk prevention and analysis as part of a wider industry support and development program
 2. **Cost of Feed (Pig, Cattle):** a major handicap to livestock development, notably the cost of feed, much currently imported. This applies also to poultry and fish farming etc..
 3. **Land Tenure Hindering Expansion of Smallholder Production:** greater commercialisation of production, including access to credit, would benefit from more formalised land tenure and title
 4. **Veterinary Services now non-existent:** some commercial operators may employ in-house capacity, but general and specialist services, as existed hitherto, are required for the restoration and development of the industry.

5. Law and Order Problems: livestock rustling/theft is widely prevalent from large and smallholder farms, and poses an ongoing handicap to industry development

- **Recommendations**

These would be best served by a coordinated, rather than adhoc, livestock upgrading support program:

1. **NAQIA Review and Updates Protocols (Embryo Transfer for Cattle)**
2. **Widen the Range of Sources (breeding stock)**
3. **Simplify Procedures for Options on Genetic Improvement**
4. **Government to Sponsor Import Risk Analysis**
5. **Increase Efforts on Import Replacement of Inputs, notably of Feedstock**
6. **More Work on Increasing Local Feed Source in Feed Formulation**
7. **Maximising Use of Local Resources**
8. **Mobilise Land to Enable Larger Scale Cattle Ranching to be Undertaken**
9. **Improve Advisory Support Services, notably using Private Service Providers**
10. **NAQIA Capacity to be reinforced to Provide Veterinary and Health Services (e.g. Meat Inspection, Surveillance for Pests and Diseases Affecting Livestock and Humans)**

Poultry

- **Issues and Constraints**

1. **On-going Improvement Required in Basic Governance and Infrastructure**

- **Law and Order** the poultry industry is dependent upon constant movement of day old chicks, feed, live and frozen birds and eggs, to and from producers to market on reliable roads (sometimes aircraft and other transportation), without undue risk of theft; yet, as relatively mobile items poultry, and financial transactions, can be readily subject local petty or more major crime
- **Roads:** as stated above, rapid and reliable movement of poultry and products requires reliable all weather roads, and some other transport and communications
- **Research and Development:** this is both for better adapted poultry production for PNG conditions, risk reduction, but also the development and production of suitable and affordable local feedstock

2. **Forex:** shortage of forex has only become a major handicap to industry since 2015, but the industry is critically dependent upon the timely supply of imported feed and other inputs. As with other industries, the credibility of PNG businesses with suppliers has reached the limit, with payment needing to be received by suppliers before they ship, raising costs and risks to the PNG producers.

- **Recommendations**

1. **Bio-Security:** the risk of imported poultry pests and diseases is ever present from imported birds, unprocessed poultry products, and occasionally migrating bird species; this requires high levels of awareness and prevention and response preparation. Having the right plans and preparation in place is crucial, at the borders, awareness amongst producers and the public and timely resources and cooperation from the authorities
2. **Import Substitution:** encourage import substitution, particularly through levelling the playing field with imported products, notably through lowering production and marketing costs, through improved transport and infrastructure, telecommunications, research including into producing affordable local feed and phyto-sanitary protection, access to credit, but also favourable trading conditions, particularly vigilance against overseas producers dumping on the PNG market.
3. **Grow the SME Sector:** as with 2 above, provide all reasonable support to encourage the growth of local SMEs, particularly using the agro-nuclear enterprise and other partnership models, and associated with cooperative organisational arrangements, encouraging financial and business literacy and access to affordable credit. Developing the SME sector, cannot be achieved by seeking to cut out foreign investment, but through appropriate partnerships, including with overseas investors.
4. **Passion to Develop PNG:** promote the status and role of smallholder poultry and agriculture in PNG's wider development. Broad –based social and economic opportunities, especially in rural areas, and promoting this vision, including access to rural power (eg. through solar power generation) for education and further welfare improvements is part of the national vision.
5. **Collaboration and Partnership (with all Stakeholders):** setting the right conditions for economic opportunities requires cooperation between government, at all levels providing core public goods, including infrastructure (including using DSIP for access roads), and both the large private investors, generally taking the lead in building supply capacity and markets, processing facilities and essential communications and financial services, but together with small/outgrower producers and other local service providers (e.g. for local transport etc).
6. **Export Opportunities:** if local production and marketing costs, including feed, can be reduced adequately, then there are prospects for competitive exports within the region. Achieving high and consistent and verified health and sanitary standards, including to the increasing international demand for 'ethical production' will be critical to building the local market and progressing to external markets.

Rice and Grains

- **Issues and Constraints**

1. **Market to Remain Competitive:** many years of indicated threats to the free trade and investment in the rice market (and even the establishment of

monopoly trading and producing rights) have caused uncertainty for other traders and investors, and threatened to jeopardise access by consumers and drive up prices for a primary staple food, particularly in urban areas.

2. **Prioritise Infrastructure Investment Aligned to Agriculture Development:** much infrastructure expenditure in recent years has gone to urban and relatively ad-hoc new transport projects, as opposed to restoring, upgrading and especially maintaining the existing road/bridge network to a satisfactory all-weather standard. This has resulted in a relatively incoherent and costly outcome and leaving major agricultural producer without reliable transport access of a standard required for large or small-scale commercial agriculture.
3. **Streamline Land Registration and Land Dispute Resolution Process:** deficient administration, with lack of transparency over titles over State land, and lack of clarity and disputes over customary undermine investment and access to finance.
4. **Commitment to Long Term and Consistent R & D Funding:** PNG has had long experience with trialling rice and some other grain crops (e.g. wheat in Kandep and grain crops for livestock), but, although capable of producing rice and other grains in different conditions, it has been challenged to produce the yields or achieve 3 yearly harvests, to help bring production costs down and to be internationally.
5. **Investment in Water Storage and Irrigation:** although PNG has sound growing conditions in various parts of the country for a range of crops at different altitudes, excessive seasonal water and lack of water in certain seasons are production inhibitors, especially in certain years. Addressing the critical constraints, to enable a third annual crop or reduce the risks of inadequate seasonal rain, would greatly enhance the prospects for rice and other certain other agricultural activities.
6. **Finance for Growers/Farmers:** a major constraint for PNG farmers, both on State land since the late 1980s (with titles often unclear or uncertain, and not readily transferable), as well as on customary land, has been access to finance for new development or upgrades. Sometimes it has been achieved through affiliation with a larger enterprise, on an agro-nuclear basis.

- **Recommendations**

1. **Market to Remain Competitive:** ensure that the market for both producing and trading rice (and other grains) remain open and competitive, free of monopoly or other restrictive conditions, which would undermine investment, and tend to drive up market prices of a staple item for consumers
2. **Prioritise Infrastructure Investment Aligned to Agricultural Development:** ensure funds are provided as priority through different tiers of government, including user charge mechanisms (notably through NRA), for the maintenance and where necessary upgrade of access/feeder and main

- roads/bridges, at least to required standards for all weather access, particularly as required for commercial, including smallholder agriculture
3. **Streamline Land Registration and Land Dispute Resolution Process:** ensure a proactive land administration capacity to provide, verify and, where necessary, transfer land titles of state land in a transparent and timely manner, and facilitate registration of ILGs and customary land registration, ensuring free, prior and informed consent, where sought by communities for agricultural or other commercial activities.
 4. **Commitment to Long Term and Consistent R & D Funding:** research, involving government research institutes and development partners, in cooperation with the private sector, is crucial for the prospects of a viable industry. Ongoing research is required to provide suitable strains and high yields, control pests/diseases, and in production systems suitable for PNG farmers to be competitive in production and marketing of rice (and other grains) for the domestic market.
 5. **Investment in Water Storage and Irrigation:** provision of irrigation, provided through public and private sector initiatives, should be undertaken initially on a pilot basis, including to reduce risk of food shortage associated with a long the dry season during El Nino years; this could complement schemes for water supply and sanitation supported by development partners and NGOs.
 6. **Finance for Growers/Farmers:** this requires cooperation between the State in improving accessibility, land administration and financial and business literacy and private sector finance providers for affordable longer term credit finance; in the absence of conventional security for lenders partnership arrangements could be developed with nucleus or cooperative operators supporting outgrowing in accessing financial services.

Finance

- **Issues and Constraints**
 1. **Access to Market**
 2. **Land Security Needing to be Addressed**
 3. **Access to Reliable and Useful Data (on Land, Communities/Demographics, Financial Access Points etc)**
 4. **Good Governance including over Land Titles and Public Finance (including No Bogus Titles or Funding of 'Paper Farmers')**
 5. **Technical Support**
 6. **Infrastructure for Ease of Access (Roads and ICT)**
 7. **Crop Risk and Lack of Insurance**
 8. **Inadequate Support for Cooperatives for Production/Marketing etc**
 9. **Personal Identity Currently Deficient to Identify Farmers**
 10. **Lack of Secure Land Title/Security/Guarantee Against which to Borrow/Lend**
 11. **Deficient Finance for Research**

- **Recommendations**
 1. **Structured Mechanism to get Sustainable Funding from the Extractive Industries to make available to Agriculture (notably formalise what some participants in the Resource Sector are already doing)**
 2. **A Concerted Effort by Financial Service Providers to Assist/Train/Support Financial Literacy/Managements Training**
 3. **Facilitate the Process whereby Overseas Commercial Organisations Engage with the Local Market and Secure International Finance for Supporting Agriculture Development and Support for Outgrower Famers and SMEs in PNG (e.g. as with Outspan/OLAM, Monpi Coffee Models)**
 4. **Constructive Initiatives/Incentives to Banks/Financial Institutions to Encourage Lending to Farmers and the Agricultural Sector**
 5. **Create Pathways for Farmers and SMEs to be Effective**
 6. **Introduce More Flexible Terms/Arrangements to Improve Access to Credit**
 7. **Firm Conditions on Resource Project Operators Requiring the Remission of Export Proceeds Back to PNG**
 8. **That a Farm Management DataBase is Established and Maintained (by Government, including DAL with Research Institutes etc.) on Production Costs for Different Industries/Locations, for Multiple Uses, including where Considering potential Input Subsidies**

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