

**From the 1940's to 60's**  
**We Maintained**  
**And We also**  
**Developed**  
**All the services**  
**Essential to**  
**proper living**

*Winston Riley*

*Delivered at a Trinidad and Tobago Institute's Symposium on the Construction Industry Saturday October 13 1979*

**IN the late 1940's, 1950's and even up to the early 1960's, we the people of this country repeatedly, routinely and ritually exhibited the quite natural capacity to maintain and progressively develop those services which were and are essential to life love and living in Trinidad and Tobago. Since then, we have been investing vast resources. We have been virtually committing our souls to raising the level of our capabilities through formal education. If we have insisted on any thing at all, we have insisted on training the personnel required to give meaningful expression to the political independence which we have recently won.**

**CHIEF ARCHITECT**

From the late 40's to the early 60's, we actually constructed

our own airport. The design and construction of the Piarco Airport spanned the years 1955 to 1962.

Initially, a combined administrative and technical team left Trinidad and Tobago on a tour to look at airports across the world. The team included the Minister of Works, the Chief Architect, the Director of Civil Aviation, the Chief Immigration Officer and the Comptroller of Customs.

All Designs were prepared by the Ministry of Works – Architectural and Engineering Section. The contracts were carried out by home contractors. Fridal and Mitchell were responsible for the Terminal Building; Seereeram for paving and constructing runways. Morcan Construction Limited undertook the fencing and Electrical Contractors carried out the electrical works. Here was an example of what is now called the construction management approach. The Ministry of Works designed, coordinated and supervise the entire range of operations.

All of that was almost twenty years ago. In those times we also were able to cope with our demand for roads. The most difficult strips of roadway in the country at present were designed as well as constructed by the resident engineers: Wrightson Road, Beetham Highway, Lady Young Road, San Fernando Bypass, just to name the major ones, were all the work of home engineers not specially imported for any purpose.

In the field of hydraulic engineering the first phase of Navet Water Works was constructed by a British firm Mowlem Company Limited. However, the treatment works and the pipelines were all put down by us. The Freeport Water Works the Valsayn Water Works, the mains from Freeport to San Fernando – a distance of approximately 15 miles and the Picton Reservoir all drew on the domestic capabilities. In those days the designs for the water schemes or the consultancy aspects were handled by Howard Humphrey, a foreign firm. But all drainage works and all irrigation works were both designed and constructed by resident professionals.

**BRIDGES**

With respect to bridges the Caroni River Bridge, the Manahambre Bridge, the Guaracara Bridge, in fact, all the bridges were brought into existence in a similar way through the activation of residentiary resources. Contractors such as Ash and Watson, Boyack and Mc Kenzie, Tom Yew and Fridal and Mitchell were among the operators of the period

In the domain of buildings, the San Fernando Hospital was designed by foreign architects; but it was constructed by a domestic firm. Here was a project which at today's prices would probably cost somewhere in the vicinity of 90M to 100M dollars. The project was undertaken in the 1950's. The Mt. Hope Maternity Hospital was designed by local architects

Watkins Phillips Bynoe and constructed by Emile Elias local contractor in 1971.

The design of the Textel Power Station in the 1960's was undertaken by local architects Mence and More. The contractors were Arthur Bros a local firm. Shell offices in Point Fortin and Texaco Offices in Point-a-Pierre were designed by local architects Prior Lourenco. These structures, at today's cost will be of the order of 30 to 40 million dollars. The construction firms involved were all local. In fact the majority of the private sector buildings in Port of Spain and San Fernando were the responsibility of home contractors.

## HOUSING

Where housing is concerned, the entire programme save the first phase of the Diamond Vale Scheme fell in the province of the domestic industry. In the early 1960's the Government itself carried out three highly successful housing schemes of aided self help. The prospective owners were engaged in the building of the homes, Mount Hope and Malick stand as monuments to the wonders that the people of Trinidad and Tobago could do if only they were afforded the ample opportunity.

Federation Park constitutes another outstanding example of the successful output of national effort. The contractor, Fridal and Mitchell a home contractor completed the assignment in

record time. The scheme employed the services of a number of architects from different national firms. This was a worthy effort both in design and construction. Let us not forget that we are now monitoring a period decades ago. Many of the engineers involved in the implementation of these projects are still around. Some are in private consulting firms, some are in construction firms, others in universities at home or abroad and no doubt there are those who have fully retired.

## POLICY MATTERS

Let us notice that, unlike our neighbours in the West Indies, Trinidad and Tobago has not experienced any genuine economic depression. From a financial point of view, we ought to, not strictly speaking to have had any difficulty in maintaining a regular and even pace in the field of construction. When we combine these considerations and take account of our educational development, our economic fortunes and the heritage of capabilities which must have come down to us from the turn of the 1960's, it is difficult to understand what is meant by the proposition that the Government to Government arrangements are being undertaken principally in order to affect a necessary transfer of technology. In recent years, we have trained more engineers, more architects, more quantity surveyors and more technicians than ever we could have contemplated in the 1950's. We have established technical institutes and founded a faculty of engineering at the university. And yet in the late 1970's, in a period of affluence and plenty, we are here condemned to a seeming collapse of the

national will. In a short time, our landscape will be dotted with the issuance of British, Dutch, French, German, Japanese and Canadian endeavour and the annals of the construction industry will read more like a tomb of world geography and less like the record of creative expression on the part of a positive new race of people. The symbols of the tribe, it appears, will henceforth be confined to the forms of dance and song. Our expression in concrete form will fade into oblivion and the risk is that we may stand limp moving only to music on an Arab stage.

Each movement each creative experience brings with itself attendant gains and losses. With new vision comes also limitations. A people who cannot bust through their limitations or who allow non-existence limitations to be ascribed to them are doomed to sterility. To abandon creativity and self-reliance is to betray the reason for independence, no, for very existence.

The 1978 budget speech which introduced the Government to Government arrangements as a major plank of official policy derives its impetus from an official critic buttressed by a consultancy exercise undertaken by the University of the West Indies Trinidad Campus of the way in which the construction industry performs in Trinidad and Tobago today. The relevant section of the Prime Minister's as Minister of Finance speech is remarkable for its insensitivity and excellent sterility of its thinking. It completely abandons the idea of self-reliance.

In his 1978 speech, the Minister of Finance had identified certain constraints which operated at the implementation stage of the construction industry: lack of skilled manpower; shortages and increasing cost of construction and building materials; inadequate planning and coordination; poor project management; delays in design and inadequate supervision of field activity. These limits on performance mirrored underdevelopment in organisations, technology and a disarray in the realm of supply. The overall effect had been the 'non performance' of the local contractor, which in turn now justify in 1979 the introduction of foreign expertise. The only question then was in what form should external expertise be made to enter? The answer lay in Government to Government arrangements the advantages of which moreover could be fully enumerated in advance. Since budget time is soon to be here again, we can usefully review the record of the new arrangements. Let us take them one by one.

### **The Financial Complex**

When the new arrangements intervened, the home consultants already were halfway through their own designs. Prior to that, the client, the Central Bank of Trinidad and Tobago, had agreed to a selective tendering procedure. A short list was drawn up containing certain home and foreign contractors. All these processes were aborted by the Government to Government scheme. In terms of action here, what happened was that the British Government went to the Properties Services Agency (PSA) which is

the equivalent to our Ministry of Works. This agency next appointed a Project Manager – a single individual. One British construction firm was recruited for the job. This British firm was ranked on the short list of original bidders. The Central Bank was then obliged by this process to negotiate with Wimpey the British firm alone. All that has been achieved by this Government to Government Arrangement is a monopolistic transaction with a single foreign contractor orchestrated by a single foreign official. The Central Bank now enjoys the advice of a British Project Manager in its negotiations with a solitary British Contractor. In other words the British PSA has now assumed the role of a Trinidad and Tobago Government. Governance is handed over through the Government to Government Arrangement. Procurement is out sourced.

The British PSAS can have no other interest in the project but to favor sale of British goods and services nor has it ever succeeded in revealing any other preference. Since we have no other building of this type and this scale in Trinidad and Tobago, it is not easy to come by data on comparative cost for the project but it is enough to know that with the inevitable escalation in construction prices, this financial complex will probably run to an amount of the order of three hundred (300) million dollars thus attaining the astronomical figure of 360 dollars per square foot.

### **Accountability**

How much of that amount could effectively have been eliminated

by open competition? Will any delivery time in the end be saved, given the constraints imposed by the conditions of supply? But new options have been created for doing violence to the highly tortured and repeatedly enunciated demands of proper accountability on public expenditure? The Minister of Finance will have to answer these questions if the administration is to justify these arrangements, not in terms of abstract considerations set out in advance as in the 1979 budget speech, but in terms of actualities of the industry, of the modalities of bilateral bargaining of this incestuous variety, in terms of the record of performance with bricks and mortar.

### **The Hall of Justice**

Here the overture took the form of a design – competition organized for the fraternity of Trinidad and Tobago Architects but open to participants from the world of large. Over twenty (20) firms entered the competition, fourteen (14) of them being on their own with the rest involved in joint ventures with British, Canadian or American partners. A figure of forty (40) million was set on the project so that designs were required to operate under that ceiling albeit in a climate of high inflation and the certainty of escalating prices and cost. Whatever the initial level of uncertainty, it was greatly aggravated when the Government announced that the Hall of Justice would be subject to a Government to Government Arrangement with the United Kingdom, an arrangement which moreover was issued even before any award had

been made with respect to the competition.

One of the conditions would be that the winners would be awarded the contract to design the project. But as it turned out, the Assessors rejected all submissions on the grounds that no scheme had succeeded in meeting the design and cost criteria as set out in the brief for the competition. Following the announcement of the results, the community of architects came in for a strong dose of official criticism in the communication media.

By way of compensation, or so it seemed, an ex-gratia award had been made to one of the firms which had entered into a joint venture with a British firm. With some alterations, the Assessors proposed, their design could be salvaged for use.

Here again, the procedure has been for the British Government to appoint a Project Manager via the PSA. The function of this official is to advise the client, our National Insurance Property Development Company (NIPDEC). Again NIPDEC negotiates directly and exclusively with a British contracting firm, which in this case is Higgs and Hill. " *It was easy, the Minister of finance had claimed in the Budget Speech, to suggest that the tendering procedures could be waived to allow contracts to be directly negotiated, to save time and possibly to save money as well. Perhaps the Government to Government Arrangements is admitting just these possibilities. But then the Minister had himself added; "It is not as easy to find a solution that will allow full public accountability."*

The exiguous demands of public accountability must now be satisfied in the context of a wholesale acceptance of the British PSA recommendation that all contracts be directly negotiated. Is this not tantamount to throwing wantonly out of the window the gains to be had from selective let alone from open tendering? Is Trinidad and Tobago not virtually offering blank cheques to the British contractors? Perhaps it is fortunate that money is no problem.

The Financial Complex now stands at 200m; the Hall of Justice has been oscillating in between \$40m and \$156m, the current price being \$100m. With escalation clauses in operation, where will the final figures settle? Wherever they do, it seems that the Government to Government Arrangements will admittedly with other variable factors escalate building costs per square foot not merely to unprecedentedly elevated levels but also onto a plane that simply boggles the imagination.

## Winston Riley continues with his Symposium Paper

### GOVT TO GOVT THE CASE AGAINST

In this article we present Part II of Mr. Winston Riley's Address to the Trinidad and Tobago Institute's Symposium on the Construction Industry and the National Future. The Symposium resumed at the Hilton Hotel on Saturday October 13 1979. Part I of the Address was published in the Trinidad and Tobago Review of that date. After arguing that Trinidad and Tobago had shown itself fully capable during the 40's and 50's of developing and sustaining the services essential to the good life, Mr. Riley suggested that the Government to Government arrangements might represent an abandonment of creativity and self-reliance. He then went on to review two projects which are being organised under that umbrella: the Financial Complex and the Hall of Justice.

Mr. Riley continues:

We have virtually prostituted ourselves before the British, and no doubt we shall be treated like all prostitutes are. The British are here to look after British interests; they have no technology to transfer. Wimpey has been here for over ten years. If what they have to transfer is not yet

transferred, when is a transfer going to take place?

The question of Project Management should also be looked at. The British PSA has appointed a single individual as Project Manager for a project that is going to cost over \$200m. How in heavens name could a single individual come to a project that is almost 60% complete at design level, and attempt to project-manage the job? What then can be the role of this person, this single individual who sits down on a negotiating team advising the client, all this being done in an environment in which our government keeps shouting that money is no problem, and that the local professionals are less than capable.

Another issue here is that the Government to Government Arrangements was meant to stop the practice of fixing contract-prices. With the new procedures, what is now in question is whether the possibility of fixing has increased or diminished? At any rate, the monitoring of behaviour is now all the more difficult since the centre of lobbying has been shifted to London.

I quote from the Budget Speech:

*"The active lobbying with its under current of corruption would be avoided."*

On these two projects, specifically the Financial Complex where the short list and the selective tendering procedure were adopted, the Government to Government Arrangement has removed the possibility of a local contractor

being involved either individually or in a joint venture.

I again quote from the Budget Speech:

*"The country and its criteria could benefit from cross fertilization of different technologies."*

From the Section of the Budget Speech, page 14, Specific Guidelines given by Cabinet.

I again quote:

*"meaningful participation by local consultants, local contractors, local suppliers of support services is to be negotiated in each of these arrangements."*

The present situation is that the Government to Government Arrangements on these two contracts has made it almost certain that at construction level, no local contractor will be involved. The foreigners themselves are surprised, but they say that this is a business deal, and if this is the way we want to do business, so be it. This is the largest office complex in the West Indies to date. It has been totally designed by local consulting engineers, and architects, and yet, in the Budget Speech, and I quote again:

*"The technology that we are lacking must be acquired in the interim. Technology in constructing a modern airport, in the design and building of large office complexes. Technology for large scale road construction building of ferry terminal."*

Clearly the situation speaks for itself.

Let us look now at the Government to Government Arrangement on the Piarco and Crown Point Airports. This project has had a history of proposal writing. Proposals have been invited on at least three occasions, and selection procedures were ninety percent complete on at least two occasions. On those occasions, five Canadian firms were short-listed to joint venture with five local firms, for the design and project management of the Piarco and Crown Point Airports.

The Canadian lending agency, CIDA was involved on those occasions. The Canadian Firms were (1) Acres International; (2) Desjardins Savorial & Associates; (3) M.D. Lee and Associates; (4) The Mallet Group; (5) Phillip Barrett with DELCANADA International. The local firms were Trintoplan; Planning Associates; Lee Young and Partners; A.C. Lewis and Trinidad Engineering and Research; Watkins, Phillips, Bynoe; and C.E.P. Limited.

The Government to Government arrangements with the Canadian Government has initiated a new round of proposal writing, through another Agency, Transport Canada. From all reports, a firm called MONENCO, in association with Parkin Associates and another Canadian firm, have been recommended by the Canadian Government to the Trinidad Government for the project. No local participation to date. The important point here again is that prior to the Government to Government arrangements local firms could have entered into

meaningful joint venture arrangements with Canadian firms, but with the Government to Government arrangements this is now excluded. In addition, the firm MONENCO was not on the original list of Canadian firms that the Canadian Lending Agency proposed as the best firms on airport building in Canada. MONENCO is a large firm of engineers that is known mainly in the field of Power Generation. This firm has little airport experience. We again here have a standard case of the effects of our inability to look after our own interest. The complete selection procedure was left up to the Canadians.

### **MT. HOPE TEACHING HOSPITAL**

The history of this project is as follows:-

(a) A Task Force was set up to look at the possibility of providing a teaching hospital at Mt. Hope. The U.W.I. Medical Faculty with its ties with other West Indian Governments was involved.

(b) A firm called *Llewelyn Davies Weeks Forester Walker and BOA*, a firm of British Hospital Consultants was commissioned to develop preliminary concepts, reports and plans for the Complex. This was done in close liaison with the Task Force and from all reports the Task Force was quite satisfied with the work done.

(c) The Trinidad and Tobago Government announced that the French Government has been approached with respect to the same project and that the project will be expanded. A French firm SODATEG was appointed on this

project to do another Preliminary Report after the preliminary report was completed by *Llewelyn Davies*. It is obvious that in such an appointment all initial works will be aborted. In addition, it is well known that the French approach to teaching hospitals is quite different from the British approach. The approach used by the University of the West Indies is in fact, the British approach. One can then imagine that the Task Force schooled decisions made in the *Llewelyn and Davies Report* will find its way into the French *SODATEG Report*. SODATEG, a French firm, would have been educated in the British procedure and the result passed over to the Government of Trinidad and Tobago. One then has to ask the question - why France? Is our U.W.I. Medical Faculty French oriented?

SODATEG was initially appointed to do the preliminary report under an umbrella arrangement with the French Government. If one is to project further, SODATEG will be interested in making absolutely certain that they remain on the job down to completion stage. The umbrella agreement is for the design and construction of the hospital complex. From the reports SODATEG attempted to have the complete hospital built in France and assembled in Trinidad for a cost of over 900 million francs

What is likely to occur is the following:

1. SODATEG may never pass over, to the Government of Trinidad and Tobago or the Task Force, sufficient information to allow them to proceed on their

own. The Task Force does not have any professional staff at architect and engineering level.

2. The time is going to come when the question of negotiating the price of that contract has to take place. SODATEG will quote a figure. The hospital complex has an area of approximately six hundred and fifty thousand square feet, and it is expected, if we may use the highest prices in the market at present, to cost approximately four hundred and fifty to five hundred and fifty million dollars. The question of cost control, the question of accountability, and the question as to whether or not we are going to be getting value for money will be wide open.

3 There will be no tendering procedure. This is a very large hospital complex and the unit cost approach cannot be applied in getting an idea of cost. The question of determining whether we are getting value for money and the question of monitoring SODATEG is going to be a major, if not impossible exercise. It will be interesting to see how the task force handles this problem. A firm of consultants will be called in to give respectability to whatever is going to happen. An example of what I mean is the Santa Rosa Housing Scheme where the cost escalation was justified by a firm of consultants and the statement from the consultants was supposed to lend respectability to what was proposed. It is however widely known in the industry that if a statistical analyst is done of quotations from contractors, and quantity surveyors' estimates on projects, the variations in some cases are as much as one hundred percent.

4. In addition at preliminary stage no local engineers or architects were involved in the preparation of plans and documents of that complex and it is only now left to be seen, whether or not, they will ever be involved.

The situation that is developing is one in which you will have a firm which had developed the concepts, done the detailed designs, the specifications, selected the equipment on a specialized and highly expensive project now expected to handle the construction work. If the situation on this project is allowed to develop the result will be much worse than the Hall of Justice. The only chance the Task Force now has of keeping some sort of control on that project is to allow SODATEG to operate purely as consultants – if SODATEG wants to enter the construction stage using the project management approach the following should apply:

- (a) Their fees should not be on a percentage of construction cost basis but should be on a time basis.
- (b) The contract period should be fixed with an incentive clause for early competition.
- (c) The cost of the project should be fixed with bonus for cost deductions.
- (d) Cost for each item of work and each piece of equipment should be detailed out before signing any contract.
- (e) Escalation clauses should be introduced but with unit cost broken down so that escalation factors could be applied to

different elements of cost based on actual information.

(f) All construction contracts between SODATEG and contracting firms should be by competitive tendering procedures with a minimum of three tenderers.

(g) The Task Force should insist on having Local Architects and Engineers involved to the maximum degree on all aspects of the project.

It is a painful embarrassment to know that in the early 50's we could build a hospital costing at today's prices over 150 m. and to have a faculty of medicine over thirty years old in the West Indies and not to be able to expand these facilities without going to France in the 1980's. For our professional association to sit back and accept this demonstrates a kind of leadership that we could do without.

## School Feeding

On the School Feeding Programme, we have gone to Luxemburg, a country that has a population of three hundred and forty thousand people, a population that is no more than the population that we have to feed on the School Feeding Programme. The School Feeding Programme could run into the order to two hundred million dollars per year. I do not know if there is more than one such firm in School Feeding in Luxemburg to feed who? What is known however is that Luxemburg is a tax haven. One also has to ask the question which comes first? Country or Firm? I again quote from the Budget Speech.

*“Through careful choice of country and firm specialist skills of the highest calibre can be detained.”*

The implications are far reaching when we have deliberately gone and by passed all the laws of our country, all the tendering procedure of our country to go to a country that has one quarter of our total population and tell them that they have the expertise and equipments for carrying out our School Feeding Programme. Do you know what that will mean to the Budget of Luxemburg? Two hundred million per year with a population of three hundred thousand. If being rich as a nation causes us to lose our dignity as a people, causes us to be known to be needy in our ability to do things, then poverty has its virtues.

## **Water and Sewerage and Local Government**

On the Government to Government arrangements with the Germans of which there are two to date:

(a) one with the Water and Sewerage Authority on the Caroni Arena Scheme and,

(b) one with the Local Government on secondary roads.

### **Caroni Arena**

On the Caroni Arena Project, the Germans were called in because of non-performance of the Japanese construction firm. The Consultants, a joint venture between a local firm and a large

American firm known for its expertise in water works could not get the Japanese to perform. In this case, the arrangements with the Germans worked well. What was required from them was carefully and precisely determined. The Client, the Water and Sewerage Authority knew what they were about. The Germans were put to work under the Technical Director of the Water and Sewerage Authority. On this project foreign personnel were paid of the order of \$30,000 to \$40,000 (TT) per month per man. The project was brought back on stream and the Germans have left. On this project, you had Americans, Trinidadians, Germans and Dutch engineers. In this case, the Water and Sewerage Authority never abandoned their responsibility as client. Let us also note that on that project we are talking about Japanese non-performance.

We have also a case on Point Lisas, where an American firm was put off the project by the Trinidad and Tobago Government because of non-performance. The question of non-performance therefore, is not one that is totally local, and it is not one that is going to end by having Government to Government Arrangements. What is now also in question is that in the case of non-performance we through Government to Government Arrangements may have abandoned one of the normal contractual rights open to a client to put a contractor off a project. We may have abandoned the right for what at best could be called the ability to apply diplomatic pressure, and I quote, from the Budget Speech.

*“the difficulty with a particular firm could get the highest attention at the highest level.”*

Our legal minds will also tell you that this could have grave legal implications if Governments got involved in applying political pressure where contractual arrangements exist. The American firm put off in the Point Lisas Project was paid for loss of profits. The agreements that we have in some cases are tri-partite, and it will be interesting to know where the final responsibility lies or how the individual governments look at the question of performance and responsibility. There are other Government to Government arrangements to which I have not referred. The fiasco with the Ministry of Works, Drainage and the Netherlands has been given attention in Parliament.

The agreement with the Germans on our Secondary roads reached the stage of an interim report and appears at first glance to be a reasonable arrangement. However, with the client being the Local Government with its almost complete lack of technical personnel, control could be non-existent. The expected cost of that contract is \$300m. The Germans have suggested tendering procedures on all contracts.

## **SUMMARY OF EXPERIENCE**

The expertise to date on the Government to Government arrangements can be summarised as follows:

(a) There are almost no cost controls on the projects and in

most cases the arrangements preclude the possibility of such control.

(b) Local Professionals have been to date 100% excluded from participation. Where local engineers exist on projects with Government to Government arrangements they were there prior to such arrangements.

(c) The Transfer of Technology is almost non-existent.

(d) Lobbying with its undercurrents of corruption has almost certainly increased.

(e) There are no attractive financing packages to date.

(f) The question of political pressure on construction contracts has been introduced and we may have given up normal contractual rights for "*the ability to get attention at highest level.*" We may further have to sacrifice these contractual rights for political goodwill between nations.

It should be noted however, that nothing is wrong per se, with Government to Government arrangements. They are just another form by which foreign finance and expertise can be mobilized. What has to be highlighted in our case is how these arrangements came into being in a time when money is no problem. The basic reason given is that the industry could not satisfy the demands of the government. What is also important to note is the extreme nature of these arrangements both in volume and form. Thus, the effects of such demands, the effect of non-planning, and the non-determination of priorities cannot

be separated in a discussion of this type.

The implications of the Government to Government arrangements outlined previously are only some of the more obvious implications. The foreign firms coming into Trinidad and Tobago know quite well that there are certain constraints existing in the industry for proper and efficient operation. These constraints are:

- (a) There are too many projects on stream at present.
- (b) The labour market is unstable mainly as a result of these numerous projects.
- (c) There is serious congestion at the port.
- (d) Shortage of finance in the local banking sector can be artificially created.
- (e) Shortage of housing to accommodate foreign staff.

If foreign firms are allowed to enter into direct negotiated contracts with their Government backing they are going to ensure large profits to themselves. As a result, they are going to attempt to buffer themselves against existing problems in the industry. The foreign firms have little option but to do the following:

- (a) they will have to demand frontal financing to the order of fifteen to twenty percent on projects, a condition not available to locals.

(b) they will attempt to import as much of the materials as possible.

(c) they are going to attempt to sub-contract non-lucrative areas to small contractors, and in some cases, they may attempt to sub-contract the complete project.

(d) they are going to ensure proper fluctuation clauses on all projects.

(e) they are going to demand proper housing accommodation as part of their contract.

The affect on the industry and the society as a whole will be as follows:

- (a) there will be a tremendous shortage of skills and labour.
- (b) Wages will skyrocket at professional and craft level
- (c) Because of shortages of essential materials such as cement, which will be outside of the control of any agreement, delays on projects will be experienced, the cost of the projects will escalate.
- (d) Union negotiations will become more vicious.
- (e) With such a large influx of foreign personnel of different nationalities, thus different sensibilities, explosive conditions in

people relationships will occur on sites.

- (f) The small and medium size contractor will virtually be run out of business in Trinidad and Tobago. The pattern of most foreign firms is to come in on one project and expand. The fact that the government has gone from government to government on nearly all the major projects means that the expansion or the availability of large projects to any one given firm of a given nationality will be tremendously limited. Thus the competition for the small and for the medium sized projects may also be essential in order to avoid fluctuations in the volume of support services available to them. It will be one way of making sure that the skills available to them at the start of a large project remain with them throughout life of the project.
- (g) In addition, the main contractor with his financial clout, lucrative financial arrangements and with his escalation clauses will be able to survive the increases in cost of materials and wages that are bound to occur because of the high demand existing at present. The situation with the smaller local sub-contractor will then become intolerable if he is operating on the same site.

- (h) The transport of material problem is going to become unmanageable. The foreign firm will tend to employ local transport contractors. The present position on the question of transportation for gravel is that most trucks are capable of handling only two to three loads per day, whereas the norm is of the order of six loads per day. This is occurring because of the long waiting line at the pits, and congestion on the roads. The problem of the long waiting line at the pits can be solved, by opening up more gravel pits and by proper quarry management, but the question of congestion on the roads is beyond the control of the contractor. The net result will be more trucks, higher transportation cost and more traffic jams.
- (i) Rents for houses will skyrocket and many middle income families renting houses at present will be asked to move out to accommodate the foreigners.
- (j) The small contractor building houses will disappear or the cost of building individual houses will escalate to such an extent that it will be out of the reach of most families.
- (k) Pressure will build up on the school system as most foreigners will travel with

their families and the question of finding school places will be problematic.

- (l) The effect on our Civil Service at performance level will be disastrous. Most of our young professionals will be involved in attending meetings, writing reports and keeping paper in circulation. They will not become effective designers and implementors. A highly dangerous situation. In addition, a high degree of animosity will develop between them and their foreign counterpart on the question of competence and salaries. In organizations like the Ministry of Works, very little design work will be done. New organizations and project units will have to be formed to monitor projects.

With two sets of Civil Services involved, two sets of Governments involved, Consultants, Contractors and in some cases, an additional set of Management Consultants with project units it will be a case of Parkinson's Law gone mad.