



ACKNOWLEDGEMENT OF STUDENTS, PARENTS AND ADMINISTRATION

INTRODUCTION OF PHILDEV

FOR SOME TIME NOW, FOREIGN GOVERNMENTS, FOUNDATIONS AND CHARITABLE ORGANIZATIONS HAVE BEEN HELPING THE PHILIPPINES IN ITS EFFORTS TO ALLEVIATE POVERTY IN THE COUNTRY. MOST OF THEIR HELP ARE GENERALLY CHARITABLE AND HUMANITARIAN IN NATURE. I CONTEND THAT THERE IS NOT ENOUGH WEALTH IN THE WORLD TO AFFECT POVERTY IN ANY DEVELOPING COUNTRY WITH THIS APPROACH TO GIFT GIVING.

ALMOST THREE YEARS AGO, THE BOARD OF PHILDEV DECIDED TO FOCUS ON A LONG TERM STRATEGIC APPROACH IN HELPING THE COUNTRY AND THAT IS: A POVERTY REDUCING, SUSTAINABLE ECONOMIC GROWTH STRATEGY THROUGH SCIENCE AND TECHNOLOGY.

MY TALK TODAY DESCRIBES THE THESIS.

WE STARTED WITH A SERIES OF DISCUSSIONS WITH VARIOUS STAKEHOLDERS IN THE U.S. AND THE PHILIPPINES ON THE NEED FOR ENTREPRENEURSHIP AND INNOVATION TO ENABLE RAPID AND SUSTAINABLE ECONOMIC GROWTH IN THE COUNTRY.

WE ALSO CONCLUDED THAT ACADEME, WITH HELP FROM THE GOVERNMENT, MUST BE FUNDED TO PRODUCE GLOBALLY COMPETITIVE SCIENTISTS AND ENGINEERS. WHEN THIS FOUNDATION IS BUILT, WE BELIEVE INDUSTRY WILL FOLLOW WITH ITS SHARE OF FUNDING RESEARCH AND DEVELOPMENT TO CREATE HIGH VALUE ADD PRODUCTS AND SERVICES.

TECHNOLOGY CREATION AND INNOVATION BEGINS, INVESTMENTS ESCALATE AND FAST PACE GROWTH HAPPENS. THIS IS AN ENDLESS PROCESS AND WE MUST START NOW.

WHILE GROWTH IS NOT AN END BY ITSELF, IT MAKES IT POSSIBLE TO ACHIEVE OTHER IMPORTANT OBJECTIVES OF INDIVIDUALS AND SOCIETIES. IT CAN SPARE AN ENTIRE POPULATION FROM POVERTY AND DRUDGERY. NOTHING ELSE EVER HAS. IT ALSO CREATES RESOURCES TO SUPPORT EDUCATION, HEALTH CARE, INFRASTRUCTURE BUILDING AND OVERALL QUALITY OF LIFE.

WE TAKE THE VIEW THAT ECONOMIC GROWTH IS A NECESSITY, IF NOT SUFFICIENT, CONDITION FOR BROADER DEVELOPMENT, ENLARGING THE ABILITY OF INDIVIDUALS TO BE PRODUCTIVE AND CREATIVE.

RESEARCH HAS SHOWN THAT IN ANY ECONOMY, SUSTAINED HIGH GROWTH HAPPENS DUE TO A NUMBER OF COMMON ATTRIBUTES SUCH AS: A FUNCTIONING MARKET SYSTEM, HIGH LEVELS OF SAVING, PUBLIC AND PRIVATE SECTOR INVESTMENT, RESOURCE MOBILITY AND POLITICAL LEADERSHIP AND ITS ABILITY TO DEPLOY THE RIGHT INFRASTRUCTURE AND BUSINESS POLICIES.

GROWTH AT SUCH A QUICK PACE, OVER SUCH LONG PERIOD REQUIRES A STRONG LEADERSHIP.

SUCCESSFUL CASES OF LEADERSHIP AND EFFECTIVE GOVERNMENT SHARE A FURTHER CHARACTERISTIC, AND THAT IS: AN INCREASINGLY CAPABLE, CREDIBLE AND EFFECTIVE GOVERNMENT.

IT REQUIRES A STRONG COMMITMENT PURSUED WITH PATIENCE, PERSEVERENCE, AND PRAGMATISM.

WE CLAIM THE CURRENT LEADERSHIP IN THE GOVERNMENT HAS SUCH ATTRIBUTES.

HOWEVER, GOVERNMENT IS NOT NECESSARILY THE CAUSE OF GROWTH. THAT ROLE FALLS TO THE PRIVATE SECTOR AND ITS ABILITY TO INVEST AND ENTREPRENEURSHIP RESPONDING TO MARKET NEEDS.

BUT, IN THE LONG RUN, IT IS THE RESOURCES OF THE GLOBAL ECONOMY THAT STAND OUT AS THE DRIVING FORCES IN SUSTAINING HIGH GROWTH IN A DEVELOPING ECONOMY AND THESE COME IN THREE PARTS: GLOBAL MARKET DEMAND, TECHNOLOGY, AND FOREIGN DIRECT INVESTMENTS.

IN THE CASE OF GLOBAL MARKET DEMAND, IT IS IMPORTANT TO NOTE THAT IN A RELATIVELY POOR DEVELOPING ECONOMY, THE GLOBAL ECONOMY IS HUGE IN COMPARISON, AND AT THE RIGHT PRICES AND

COSTS, GLOBAL MARKET DEMAND IS, FOR PRACTICAL PURPOSES, UNLIMITED.

IT IS NOT ONLY POSSIBLE NOW BUT MORE IMPORTANTLY EASIER TO ENTER THE GLOBAL MARKET BECAUSE THE WORLD ECONOMY IS NOW MORE OPEN AND INTEGRATED.

TO QUOTE THE REPORT FROM THE COMMISSION ON GROWTH, "ONCE THE CHALLENGE OF IDENTIFYING INDUSTRIES IN WHICH THE COUNTRY CAN INVEST IN ACQUIRING A COMPARATIVE ADVANTAGE IS MET, GROWTH IN EXPORTS WILL NOT BE CONSTRAINED BY DEMAND, AND GROWTH IN THE ECONOMY CAN OCCUR AT A RATE DETERMINED BY SAVINGS AND INVESTMENT RATES.

MUCH OF THAT INVESTMENT IN THE EARLY STAGES WILL GO INTO THE EXPORT SECTOR WHICH CAN GROW AT RATES HIGH ENOUGH TO PULL THE ECONOMY ALONG.

AS WE SAW IN JAPAN, KOREA, TAIWAN AND NOW CHINA, THE GROWTH OF EXPORTS CAN SET IN MOTION A PROCESS OF SUSTAINED GROWTH WHICH IS TRANSMITTED TO THE WHOLE ECONOMY AND COULD NOT BE ACHIEVED BY RELYING ON DOMESTIC DEMAND ALONE.

HOWEVER, MATURE GLOBAL MARKETS RELY ON DEEP INSTITUTIONAL UNDERPINNINGS, INSTITUTIONS THAT DEFINE PROPERTY RIGHTS, ENFORCE CONTRACTS, CONVEY PRICES, AND BRIDGE INFORMATIONAL GAPS BETWEEN BUYERS AND SELLERS.

THESE POLICY UNDERPINNINGS OF SUSTAINED HIGH GROWTH CREATE AN ENVIRONMENT FOR HIGH LEVELS OF INVESTMENT, JOB CREATION,

COMPETITION, RESOURCE MOBILITY, SOCIAL PROTECTIONS, EQUITY, AND INCLUSIVENESS.

DOES THE PHILIPPINES HAVE THESE UNDERPINNINGS AND THEREFORE THE ABILITY TO TAKE ADVANTAGE OF THIS GLOBAL DEMAND?

ARGUABLY, WE HAVE PLENTY OF CATCHING UP TO DO.

THE SECOND RESOURCE OF THE GLOBAL ECONOMY TO SUSTAIN HIGH GROWTH IS TECHNOLOGY.

THEY RANGE FROM ENGINEERING, PRODUCTION, AND SERVICES TECHNOLOGY. TECHNOLOGY TRANSFER MAY BE USED BUT ONLY IF THERE IS A LEVEL OF EXPERTISE LOCALLY TO SUSTAIN AND POTENTIALLY SURPASS STATE-OF-THE-ART. OTHERWISE IT IS NOT SUSTAINABLE AND IS YET ANOTHER FORM OF CAPITAL LOSS.

COMPARED TO DEVELOPED COUNTRIES, WE ARE SEVERELY LAGGING IN TECHNOLOGY. THE COUNTRY FINDS ITSELF NOT COMPETITIVE IN HIGH VALUE ADD PRODUCTS AND SERVICES.

IT HAS BEEN SHOWN IN OTHER WEALTHY NATIONS THAT INDUSTRIALIZATION IS ONE OF THE MORE LASTING SOLUTIONS TO POVERTY.

INDUSTRIALIZATION IS SIMPLY THE PROCESS OF CREATING TECHNOLOGY BASED VALUE ADD PRODUCTS AND SERVICES. IT ALSO TRANSFORMS COUNTRIES FROM A CONSUMER STATUS TO THAT OF A PRODUCER.

TO CATCH UP, THE PHILIPINES MUST START THIS WHOLE PROCESS BY CREATING A LARGE GLOBALLY COMPETITIVE BASE OF SCIENTISTS AND ENGINEERS.

THE THIRD RESOURCE OF THE GLOBAL MARKET FOR SUSTAINED HIGH GROWTH IS FOREIGN DIRECT INVESTMENTS OR INVESTMENTS BEYOND THE CAPACITY OF LOCAL ECONOMY TO SAVE.

FDI IS ESPECIALLY IMPORTANT IN THAT IT BRINGS IN MORE TECHNOLOGY, MARKET KNOWLEDGE AND ACCESS TO GLOBAL MARKETS.

IN SHORT, FOREIGN DIRECT INVESTMENTS IS THE CONDUIT FOR GROWING ECONOMIES TO IMPORT IDEAS, TECHNOLOGIES, AND MARKET KNOW-HOW.

ANOTHER CONDUIT IS FOREIGN EDUCATION, WHICH OFTEN CREATES LASTING INTERNATIONAL NETWORKS. SINCE LEARNING IS OFTEN FASTER THAN INVENTING, FAST LEARNERS CAN RAPIDLY GAIN GROUND ON LEADING ECONOMIES.

IN THE LAST FOUR YEARS THE COMMITMENT BY THE GOVERNMENT TO PRODUCE THE NECESSARY EXPERTISE IN SCIENCE AND ENGINEERING IS UNPARALLELED IN RECENT HISTORY.

WE CHALLENGE INDUSTRY TO DO AN EQUIVALENT EFFORT IN INVESTMENTS IN R&D FOR TECHNOLOGY BASED PRODUCT AND SERVICES DEVELOPMENT.

ONCE INDUSTRY HAS DEFINED MARKET OPPORTUNITIES, THERE ARE FEW NECESSARY REQUIREMENTS FOR VALUE CREATION TO HAPPEN:

1. A THRIVING ENTREPRENEURIAL COMMUNITY, START-UPS AND EXISTING COMPANIES
2. GLOBALLY COMPETITIVE SCIENTISTS AND ENGINEERS
3. ADEQUATE SUPPLY OF TECHNOLOGY MANAGEMENT EXPERTISE
4. INVESTORS
5. RELEVANT SUPPORT SERVICES – FINANCE, LEGAL AND DISTRIBUTION
6. COMPETITIVE HIGHER LEVEL EDUCATION IN SCIENCE AND ENGINEERING
7. THRIVING RESEARCH AND DEVELOPMENT BY INDUSTRY AND UNIVERSITIES

BUT HOW DO WE GO ABOUT STARTING THIS PROCESS?

FROM AN ENGINEER, ENTREPRENEUR, AND A VENTURE CAPITALIST THAT HAS PRACTICED IN THE MOST INNOVATIVE AND COMPETITIVE TECHNOLOGY CENTER IN THE WORLD, I WOULD OFFER A POSSIBLE BEGINNING, ONE THAT I WOULD CALL:

LOCAL DISRUPTION

WHY WOULD I RECOMMEND LOCAL DISRUPTION FIRST?

1. WE UNDERSTAND OUR LOCAL MARKET BETTER THAN ANYONE.
2. WE CAN CUSTOMIZE PRODUCTS FOR COST AND PERFORMANCE BASED ON LOCAL REQUIREMENTS. IN MANY CASES, MARKETS IN

DEVELOPING ECONOMIES ARE EXPANSION MARKETS FOR FOREIGN COMPANIES AND USUALLY SELL PRODUCTS BEYOND LOCAL MARKET REQUIREMENTS AND GENERALLY COME WITH HIGHER PRICES.

3. WE CAN SCALE THE RISK BASED ON AVAILABLE TECHNICAL AND MANAGEMENT EXPERTISE, TECHNOLOGY AND FUNDING.
4. AT THE OUTSET, WE DO NOT HAVE TO COMPETE HEAD-ON AGAINST STRONG FOREIGN COMPETITION IN GLOBAL MARKETS.
5. THE SIZE OF OUR LOCAL MARKET IS LARGE ENOUGH TO SUSTAIN MULTIPLE COMPETITIVE COMPANIES.
6. THE LOCAL MARKET IS A GOOD TRAINING GROUND TO DEVELOP EXPERTISE IN ALL ASPECTS OF THE BUSINESS BEFORE ENGAGING FOREIGN COMPETITION IN GLOBAL MARKETS.
7. DEPENDING ON THE SIZE OF THE OPPORTUNITY, FOREIGN COMPETITION MAY NOT ELECT TO ENTER THE LOCAL MARKET.
8. ONCE ESTABLISHED AND THRIVING, LOCAL COMPANIES WOULD BE ATTRACTIVE PARTNERS FOR PRODUCTS, DISTRIBUTION AND POTENTIAL M&A WITH LARGE FOREIGN COMPANIES.

AGAIN, THIS IS JUST A STARTING POINT SINCE GROWTH STRATEGIES THAT RELY EXCLUSIVELY ON DOMESTIC DEMAND EVENTUALLY REACH THEIR LIMITS. THE HOME MARKET IS USUALLY TOO SMALL TO SUSTAIN GROWTH FOR LONG, AND IT DOES NOT GIVE AN ECONOMY THE SAME FREEDOM TO SPECIALIZE IN WHATEVER IT IS BEST IN PRODUCING.

HOWEVER, IF ONE WERE TO ENTER GLOBAL TECHNOLOGY MARKETS IN THE NEXT FEW YEARS, SOME OPPORTUNITIES FOR INVESTMENTS ARE:



1. WIRELESS COMMUNICATIONS AT MUCH HIGHER DATA RATES FOR WIDE AREA, LOCAL AREA AND NEAR FIELD APPLICATIONS. CHALLENGES IN DESIGN ARE ENORMOUS BUT COULD PRESENT HUGE GROWTH OPPORTUNITIES FOR THOSE WHO CAN SOLVE THESE VERY DIFFICULT COMMUNICATION TECHNOLOGY PROBLEMS.
2. CLOUD COMPUTING WILL CONTINUE TO DEMAND VERY HIGH DATA RATES IN WIRED INFRASTRUCTURES AND HIGH PERFORMANCE COMPUTE SERVERS REQUIRING NEW ARCHITECTURES.
3. OPTICAL COMMUNICATIONS WILL FINALLY SEE ITS FULL POTENTIAL TO COMPUTING
4. THE INTERNET OF THINGS WILL BEGIN TO SHOW SOME VIABLE APPLICATIONS IN THE HOME AND ENTERPRISES.
5. PRODUCTIVITY THROUGH SMALL FORM FACTOR COMPUTE PLATFORMS WILL OVERTAKE ENTERPRISE PLATFORMS
6. BIOTECHNOLOGY WILL BE APPLIED IN OTHER MARKETS BEYOND HEALTH APPLICATIONS – BIOFUELS, FOOD SOURCES, ETC.
7. THE HOME WILL BE PART OF CLOUD COMPUTING

TO SUMMARIZE, A POVERTY REDUCING, SUSTAINABLE ECONOMIC GROWTH CAN BE ACHIEVED BY ACCESSING GLOBAL MARKETS THROUGH INNOVATION AND ENTREPRENEURSHIP.

GOVERNMENT, ACADEME AND INDUSTRY MUST PROVIDE THE NECESSARY POLICIES, INFRASTRUCTURES, FUNDING FOR QUALITY EDUCATION IN SCIENCE AND ENGINEERING, INVESTMENTS IN R&D,

AND VENTURE INVESTMENTS THAT PROVIDE ENTREPRENEURAL EQUITY.