The African Universities' Capacity to Participate in Global Higher Education Supply and Production: A Case Study of Uganda

Prof. A.B.K. **KASOZI**
The National Council for Higher Education
Kampala, Uganda

ABSTRACT

This paper reports findings on the ability of Ugandan universities to contribute to global higher education production and supply. The paper is a result of a survey of tertiary institutions the author and a few colleagues conducted for the Makerere Institute of Social Research and the Rockefeller Foundation. Twenty institutions including thirteen universities and sixteen non-university institutions were surveyed in 2001-2002. Indicators of capacity to generate knowledge included education facilities such as laboratories, science materials, library books, research facilities, computers, internet access, space (in classrooms, libraries, laboratories etc) and, above all, qualified personnel. The study found that many of Uganda's tertiary institutions lack capacity to produce ideas through research, debate and other forms of investigation. The paper details the lack of this capacity. At an international higher education conference late last year in Eldoret, Kenya, this paper was presented. Many African delegates said the situation in Uganda was similar to what pertained in their own countries.

Introduction

The aim of this paper is to generate discussion on how African universities can participate in global higher knowledge production and supply instead of being mere consumers. The supply of education has become global but not cultural free. Globalization has permitted powerful universities in

developed countries to transmit higher education knowledge to all corners of the world irrespective of whether national authorities receiving students approve of the contents of such education. The aims of higher education are to socialize individuals to their societies, to enhance upward social mobility and to provide a base for the disinterested but vigorous search for the truth (Newman, 2000). It follows, therefore, that good higher education should have a national or cultural content, besides the sciences and humanities needed by "students. In the liberalized free market of higher education supply, it is impossible and wrong to block the entrance of external higher educational into a country. Moreover, it is technologically difficult to exclude foreign cultural-filled higher education from national borders. The best way African universities and nations can deliver higher education with their cultural and national contents is to increase their capacity to deliver quality higher education to their clients, to participate in global knowledge production and supply. A case study of Ugandan tertiary institutions shows a lack of capacity to produce and train for both the local and global village.

Globalization

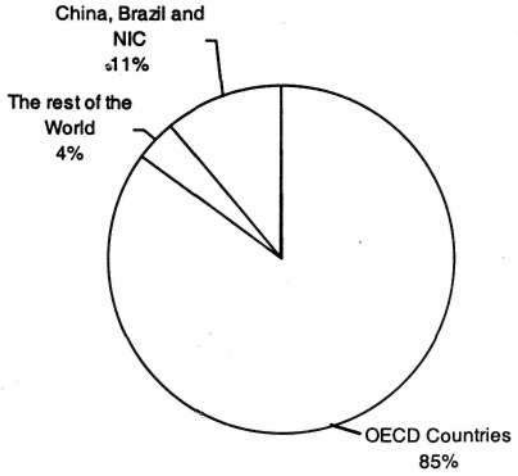
Globalization implies a borderless world, where the movement of ideas, including educational ideas, people and goods is free and unhindered by geopolitical divisions of the world. It is a natural destination, a goal, on the long road humanity has been taking to development. It is the result of enormous discoveries in science and technology buttressed by the spread of relevant education. Indeed higher education is part of the engine of the technology that has brought about globalization. Ideas produced by people with higher education have massively contributed to generating the forces that have facilitated globalization. The movement of ideas from one part of the world to the other which used to be transmitted in letters, books, newspapers, telephones, radios is now done electronically within seconds. Ideas on any subject, including the manufacture of goods, are no longer secrets. They are accessible on the information superhighway.

Globalization is changing not only the way ideas are produced and transmitted to students and other interested parties, but also the way goods and services are manufactured. In the past, an industrial plant would produce and market a product within a given locality or nation. Industrial

concerns, using strong structures of the state would export some of the goods. If raw materials were needed outside the state, they would be purchased or extracted from abroad through co-operation or coercion. However, in the present digital age, manufacturing

account global forces could be undone. We live in a borderless world where whatever happens in one corner of the earth affects us all. Rich African students can receive higher education from anywhere they wish without permission from higher education officials. Powerful overseas on line colleges and universities have become global suppliers of education blurring borders that divide nations. For example, the central University of Budapest is chartered by the Board of Regents of the State of New York. The American

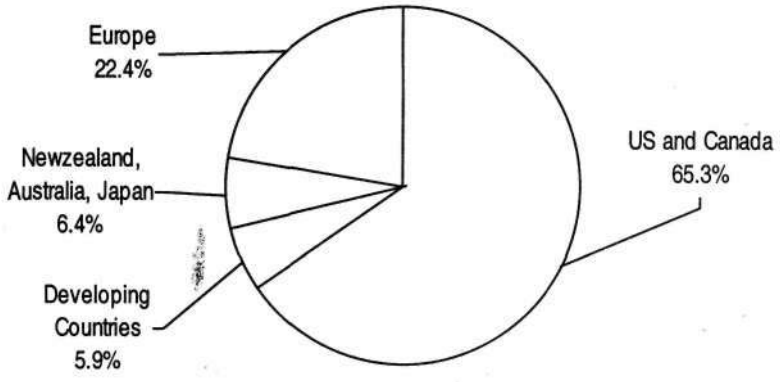
Figure 1: Global Investment in Research and Development



Information and Communication Technology (ICT) Capacity in Developing Countries.

A major problem of Africa's ability to participate in knowledge production and supply is our low ICT capacity. For example, developing countries including most of Africa have very few Internet hosts. There is one internet user for every 5000 people in Africa as compared to one user per six people in Europe and North America (World Bank, May 2002:3).

Figure 2. Global Internet Usage



The Figure 2 shows the global international Internet usage on a percentage basis.

The use of a personal computer has become one of the indicators of ability to access and use knowledge. Again Africa fares very badly in computer access. There is one personal computer user per 1000 of population in Burkina Faso, 27 in South Africa, 38 in Chile, 172 in Singapore and 348 in Switzerland. Uganda is not very different from Burkina Faso.

A case study of Ugandan universities gives a thorough indepth understanding of lack of capacity for African universities. If the situation in Uganda, which is considered advanced in terms of higher education provision on the continent South of the Sahara, is duplicated in other African countries, we have many miles to go before our universities can produce and teach knowledge in the global village.

Capacities of Ugandan higher educational institutions to deliver quality and internationally marketable education:
A case study

In a recent Rockefeller funded study by the Makerere Institute of Social Research, twenty eight tertiary institutions were surveyed to measure capacity to train civil servants for improving local government services. It was found that although the potential was there, few institutions can compete effectively in the global tertiary higher education supply. The sample selected included 13 universities, 3 national teachers colleges, 3 technical colleges, 3 colleges of commerce, one agricultural college, one co- operative college, three medical/health institutes and one management institute (Tables 1, 2 and 3).

For the purposes of determining which institutions have, or can develop, capacity to effectively train what they were established for, we developed a number of capacity indicators to guide our decision. We assumed that an institution which cannot deliver quality education to its ordinary registered students cannot be a candidate for training civil servants to deliver services at the local or central government level. These indicators were integrated in the qualitative and quantitative data we solicited from our respondents. They included the staffing levels, the physical plant, the education facilities, the funding stability and the governance of an

institution. Some of the indicators that are quantifiable are shown in Table 3. These indicators were designed by the research team with reference to earlier studies on determining tertiary institutional capacity (Smith, 1986; Maliyamkono, 1998). It was our assumption that to become a candidate for outreach training of civil servants, a tertiary institution should have capacity to satisfy its primary clients; the ordinary registered students.

Size/viability of the institution

The si2e of an institution is, to a large measure, an indicator of its viability. Size in higher education terminology should include levels of enrolment, academic staffing, physical structure, variety of programmes offered and resources. Good levels in enrolment indicate student preference for that institution. Student preference is determined by the facilities an institution is able to offer and its prestige. Makerere University is preferred by most Ugandan students because of the variety of programmes it offers, its central location and above all, its prestigious history. We visited a number of university institutions and it was clear to us that student preference was a good indicator of the viability of institutions. Thus while students were rushing to register at some universities (for example Nkumba, Nkozi and Mbarara), they were running away from Kampala, Ndejje and Namasagali. However, size of enrolment is not the only measure of viability since some universities like UMU (Nkozi) prefer to keep their classes small and are popular for that reason. Column 1 and 2 of Table 1 indicate the sizes in enrolment of the various institutions surveyed. It can be realized that the average size of Uganda's institutions of higher learning, other than universities and teachers colleges, is no more than 300 students. That of universities is about 700 (if Makerere is excluded and about 2500 if the latter is included). The number of academic staff an institution has is indicative of its size and viability. Normally, staff are employed to satisfy the teaching needs of a given number of students. Lecturer to student ratios can help us as good indicators in general academic programmes but not in core and science subjects. In Uganda, the latter programmes are maintained for institutional and national missions. Columns 3,4 and 5 of Table 1 indicate the staffing levels of the institutions visited. The average lecturer to student ratio of the university sector was found to be 1:16. The average number of programmes range from four to ten, Makerere University excepted. The physical structure of most of the

institution is limited to few buildings sitting on 10-30 acres of land. But a number of institutions like UMU, Ndejje and IUIU have large pieces of land for future development.

With the exception of Makerere, all university institutions were established after 1988. They therefore lack a history and the prestige attached to past achievements. Most of the non-university tertiary institutions are, likewise, small and date from the last decade of the colonial era or the 1960s.

Enrolment

Makerere with 26395 of the 39687 registered university students in May 2002 had 66.5% percent of total university enrollment. The remaining university students, 13,292 was shared by ten universities (Table 1). No figures were available for Bugema, Kyambogo, Kampala, Kampala International and Gulu universities. The non-university tertiary institutions have an average enrollment of two to three hundred students. Makerere was not part of our research project. But according to a Makerere University Academic Staff Association (MUASA) report of 1999, the premier university suffers from of overcrowding in a number of faculties due to increased enrollments unmatched by increased facilities (MUASA Report, 1999) If they cannot satisfy local demand, how can these institutions participate in global education supply?

Staffing levels

The quality of a good tertiary institution is determined by the quality and dedication of the academic staff. In determining which tertiary institution is able to participate in outreach training, the number and quality of academic staff an institution had was given weight.

Table 2 shows the qualifications of lecturers and lecturer to student of university institutions we surveyed. These ratios do not tell the whole story. One would have to look at the qualifications of the staff. These are captured in the same table 2. Staff with Ph.Ds are rare in the institutions surveyed. There was a total of 61 PhD holders in the eleven universities that responded (19 at IUIU, 12 at Nkumba, 9 at UMU Nkozi, 8 at UCU Mukono, 7 at Mbarara, 5 at Bugema and 1 at Ndejje). The number of Ph.D. holders in Uganda may be higher than the data we have. We got a figure of 370 Ph.D holders at Makerere from the University's Department

of Planning. The latter institution does not organize its staff statistics by qualifications. It does so by ranks of professor, senior lecturer and lecturer etc. Based on what we found, the country needs upgrading its academic staff. The staff that exist in the tertiary sector can just manage to do cover their teaching responsibilities. They do not have the time or resources to do research and produce knowledge.

Table 1: Enrollment and Gender balance in the surveyed sample of institutions of higher education, 2002

Institution	Male Students	Female Students	Male Academic Staff	Female Academic Staff	Administrative Staff
1. Islamic Univ. (IUIU), Mbale	976	472	152	12	35
2. Mbarara Univ.	554	275	90	29	143
3. EAC Univ. Ndejje	928	478	44	9	7
4. Ug. Martyrs Univ. Nkozi	181	213	47	13	19
5. Nkumba Univ.	1258	1262	*64*	12	21
6. Namasagali Univ.	169	116	18	4	9
7. Busoga Univ.	158	85	74	10	7
8. Kabale Univ.					
9. Bugema Univ.	624	306	22	17	13
10. Uganda Christ. Univ. Mukono	871	694	60	18	16
11. Kyambogo Univ.					
12. Gulu Univ.					
13. Kampala Univ.					
14. NTC Ngetta	1636	686	69	6	22
15. NTC Kabale	1318	468	33	5	11
16. NTC Nkozi	1663	1437	22	13	9
17. UTC Elgon	308	21	27	2	9
18. UTC Kichwamba	175	5	34		6
19. UTC Lira	537	20	32	5	2
20. UCC Aduku	649	205	27	2	4
21. UCC Kibale	329	222	36	7	13
22. UCC Tororo	389	344	33	7	18
23. Busitema Agri. College	202	13	32	3	21
24. Co-op. Col. Kigumba	131	47	14	1	4
25. Sch. of Hygiene Mbale	202	72	7	2	3
26. Sch. of Clin. Off. Mbale	175	76	28	5	6
27. Sch. Of Clin. Off. Fort-Portal	248	60	21	5	5
28. Nakawa Vocational Inst.	565	224	21	7	15
29. Uganda Management Inst.	565	224	21	7	15

Sources: Ministry of Education and Sports, Planning Department; Education Management Information Systems; Data gathered from the institutions listed above, World Bank documents etc.

(Makerere was not part of the study as it initiated the process of doing so to determine which institutions it would work with in training for decentralization.).

Table 2: Academic staff, their qualifications and lecturer to student ratios

Institution	PHD	Masters	Bachelors	Lecturer to Student Ratio
1. Makerere University	370	Not available	Not available	16
2. Islamic Uni. (IUIU), Mbale	19	115	20	9
3. Mbarara Uni.	7	65	47	7
4. EAC Uni. Ndejje	1	37	15	27
5. Ug. Martyrs Uni. Nkozi	9	49	2	7
6. Nkumba Uni.	' 12	36	24	33
7. Namasagali Uni.	-	7	15	13
8. Busoga Uni.	2	-		3
9. Kabale Uni.	-			.
10. Bugema Uni.	5	19	15	24
11. Uganda Christian Uni. Mukono	8	56	12	20
12. Kyambogo Uni.				_
13. Gulu Uni.				_
14. Kampala Uni.				_
15. NTC Ngetta		15	42	31
16. NTC Kabale		11	25	42
17. NTC Nkozi		17	20	89
18. UTC Elgon			2	11
19. UTC Kichwamba			8	5
20. UTC Lira			1	15
21.UCC Aduku		1	15	29
22. UCC Kibale		2	20	13
23. UCC Tororo		3	18	18
24. Busitema Agri. College		2	2	9
25. Co-op. Col. Kigumba		7	7	12
26. Sch. of Hygiene Mbale		.	-	30
27. Sch. of Clin. Off. Mbale		-	-	6
28. Sch. Of Clin. Off. Fort-portal		4	4	12
29. Nakawa Vocational Inst.			-	_
30. Uganda Management Inst.	5	3	3	28
Total	438	449	247	

Sources: Ministry of Education and Sports, Planning Department; Education Management Information Systems; Data gathered from the institutions listed above, World Bank documents etc.

The Physical Structure

The physical structure of an institution is part of what we have defined as size. The physical structure includes buildings, the land on which the building structures are constructed, the roads, gardens and other developments. Our sample of institutions contained varying sizes and shapes of physical structures. Some of the new universities have one or two building structures (Ndejje, Busoga), others still occupy lower level institutional facilities which they replaced (IUIU, UMU, Ndejje, Nkumba) while others rent premises (Kampala). For now, most of Uganda's institutions need to improve their physical structures. Many of them like Ndejje, UMU, IUIU have chunks of undeveloped land on which adequate structures could be built in future. Many of the tertiary institutions are lacking in structures that support the delivery of quality education as discussed below:

- Library space
  Ideally, there should be one space of one square metre per four students meaning each registered student should have at least $0.25m^2$ space in the Library (Maliyamkono, 1987). However, only IUIU, MUST, UMU, Bugema, Busitema, Kigumba, School of Clinical Officers at Mbale and UMI have achieved this ideal.

- Classroom space
  The same ratio of one square metre per four student should apply to classroom space. It would seem that institutions are better off in having classroom area. Those which have attained the ideal include MUST, Ndejje, IUIU, UMU, Namasagali, Busoga, Bugema, Ngeta, NTC Kabale, NTC Nkozi, UTC Elgon, UTC Kichwamba, UTC Lira, UCC Aduku, UCC Kabale, UCC Tororo, Busitema, Kigumba, School of Hygiene at Mbale, School of Clinical Officers at Mbale and Fort Portal and UMI. However, the available space in classrooms may be a function of low enrollment especially in non-universities institutions.

- Laboratory space
  Many of the universities did not have sufficient laboratory space. Only MUST, UMU and IUIU teach sciences. No wonder science enrollments are only 15% of total tertiary enrollments in Uganda.

- Administrative area.
  Areas allocated to administration vary with each institution. On the whole, however, the space is not enough. On average, each staff had less than three square metres of office space, if at all.

- Student Affairs Office.
  In most of the institutions surveyed, student affairs space was a luxury. A number of student leaders transacted student political problems in classrooms when there were no lectures going on.

- Space for estates
  There was a dearth of space for estates workers. Institutional equipment is often left in the open to depreciate under the pressure s

Table 3: A summary of education facilities available to the sample institutions.

Education facilities

Institution	**Library Space per student (m2)**	**Student to Book Ratio**	**Computer to Student Ratio**	Classroom Space **per** student(m2)
1. Islamic Uni. (IUIU), Mbale	0.31	**10**	1:36	1.6
2. Mbarara Uni,	0.86	22	1:8	0.73
3.EAC Uni. Ndejje	0.04	**1**	1:351	1.95
4. Ug. Martyrs Uni. Nkozi	0.81	**36**	1:4	3.5
5. Nkumba Uni.	0.08	**7**	1:66	0.05
6. Namasagali Uni.	0.07	**4**	1:41	1.51
7. Busoga Uni.	**0.21**	**12**	1:8	1.3
8.Kabale Uni.	-	-	-	-
9. Bugema Uni.	0.91	42	1:31	0.81
10. Uganda Christian Uni. Mukono	0.13	30	1:13	0.27
11. Kyambogo Uni.	-	-	-	-
12. Gulu Uni.	-	-	-	-
13. Kampala Uni.	-	-	-	-
l4.NTC Ngetta	0.04	**2**	1:92	0.25
15.NTC Kabale	0.11	**5**	1:48	0.49
16.NTC Nkozi	0.08	**7**	1:388	0.41
17.UTC Elgon	0.30	**9**	1:110	2.5
18. UTC Kichwamba	0.17	**3**	1:60	3.08
19.UTC Lira	0.11	**7**	1:139	10.43
20. UCC Aduku	0.19	**3**	1:85	1.4
21.UCCKabale	0.13	**10**	1:55	1.61
22. UCC Tororo	-	**4**	1:122	1.12
23. Busitema Agri. College	0.28	-	1:71	2.38
24. Co-op. Col. Kigumba	0.56	**31**	-	1.73
25 Sch. of Hygiene Mbale	0.22	**6**	1:274	1.04
26. Sch. of Clin. Off. Mbale	0.32	**10**	1:84	1.04
27. Sch. Of Clin. Off. Fort-portal	0.10	**11**	1:154	1.5
28. Nakawa Vocational Inst.	-	-	-	-
29. Uganda Management Inst.	0.808	**4**	1:10	0.9194

Sources: Ministry of Education and Sports, Planning Department; Education Management Information Systems; Data gathered from the institutions listed above, World Bank documents etc.

Education facilities are a major capacity indicator of an institution. These are the various materials needed to enhance instruction. They include books, laboratory equipment, chairs for classrooms and libraries, computers and other ICT equipment as well as physical health facilities. They include the following:

- Library books.
  The library is often referred to as the heartbeat of a tertiary institution. We therefore focused on assessing tertiary institution capacity as one of our main criteria for selecting an institution to participate in training civil servants. Ideally, a student should have access to 50 books at any one time i.e. a student book ratio of 1:50 provided the books are relevant to the courses taught (Smith, 1986). Only UMU, Bugema and Mukono reach this ideal. However, most of the books at Mukono were identified as being relevant to religious studies only. The Library capacity of the institutions surveyed is weak.

- Computer units.
  It is generally agreed that ICT is becoming the major medium of higher education. Any university that does not use modern ICT infrastructure cannot access relevant information for the delivery of quality education. Our survey indicated that UMU Nkozi, Mbarara and Nkumba were well advanced in ICT infrastructure (including connection to the web). IUIU was wired but not connected. The personal computer is increasingly becoming the exercise book in higher education. Thus each student-as well as each teacher - should own a personal computer. Our survey revealed disturbing results. The average computer to student ratio for institutions surveyed shows a figure of one computer to over fifty students, a very depressing ration. We did not investigate staff access to computers.

  The ICT infrastructure of the surveyed institutions is extremely weak. Only UMU, MUST, UMI and Nkumba have ICT infrastructure worth using for outreach activities. But certainly not for global purposes.

- Chairs in classrooms and libraries.
  The figures for chairs for classrooms and libraries indicated a healthier situation than for other items. Chairs are a vital element of education facilities. Most of the institutions had a ratio of one chair to less than 3 students in classrooms, libraries and laboratories.

Funding stability/Resources.

A major indicator of institutional capacity is the amount of resources available for use in enhancing the institution's mission. Our efforts to know the resources available to institutions were frustrated by an unwillingness on the part of many of these institutions to reveal (a) income and expenditures and (b) the institutional areas to which they put their resources. Many institutional leaders merely said that the financial records of their universities were a confidential matter. We therefore found it hard to get official financial documents. Another survey is needed. Basing our information from the various interviews, documents and leakages from top administrators, our conclusions were that:

(i) Most of the institutions of higher learning in Uganda are running on deficit budgets.

(ii) The majority of them get far less from their core funders than is budgeted.

(Hi) There is an alarming gap between fees and unit costs. The fees are about $1000 for universities and $300 - 500 for other institutions. But the unit costs are over $1500 for most of the universities and over $500 for other institutions. The dilapidated infrastructure and meager resources of the institutions were indicative of their financial plight.

(iv) Government tertiary institutions, other than universities, are in a very bad shape. Since cost sharing in public institutions was abolished, they lost even the little money they used to get from students who were able to pay fees.

(v) Many of the surveyed institutions have limited sources of funding. The majority have one or two funders. It is, however, pleasing that some have endowments.

(vi) Institutions transferred to the Ministry of Education from other ministries have suffered the most as some of them have lost the facilities they formerly had in their parent ministries. For example Health/Medical institutes are finding it hard to use hospitals as "laboratories" or to get medical consultants as tutors in the same way they did in the past. The Ministry of Health is no longer considering these institutions as its "children".

Conclusion

This paper has argued that African universities should participate in the global knowledge creation and supply instead of being mere consumers. By so doing, these institutions would not only give an African cultural and national content to knowledge supplied abroad, but will also shield our students from foreign, and often hostile and demeaning ideas and images. However, a case study of Ugandan institutions shows a lack of capacity for our institutions to go global. If the Uganda case is the norm in most of Sub-Sahara Africa, it is not difficult to say why the continent is not contributing to knowledge production and supply. We must improve our situation. Obviously the first step should be for our institutions to focus on improving their capacity to deliver quality education to their primary clients their students. Having done that successfully, then we should focus on research and the use of home grown knowledge in our lecture rooms. The ability of African universities to compete with the many For-Profit providers of international higher education will only develop if we have alternative, and locally produced knowledge to deliver to our students.

References

Makerere University Academic Staff Association Report, MUASA, 1999.

Maliyamkono, T.L. (1987) University Capacity in Eastern and Southern African Countries.

London: James Curry.

Musisi, Nakanyike and Muwanga, Nansozi (2001). Makerere University in Transition, 1993-

2000: Opportunities and Challenges (A study funded by the Rockefeller Foundation and Carnegie Corporation.

Newman, Frank (2000). "Saving Higher Education's Soul" in Change, September, October,

2000: 16-23. Also in a seminar he gave at the Conference of Commonwealth Universities Executive Heads, April 22-26, 2001, Cyprus.

Smith, Richard Norton (1986). The Harvard Century: The Making of a University to a Nation. Harvard University Press: Cambridge, Mass.

Uganda, Ministry of Education and Sports (1989). Education for National Development;

Report of the Education Policy Review Commission, Kampala. (Kajubi Report).

Uganda (1992). Government White Paper on Implementation of the Recommendation of the

Report of the Education Policy Review Commission entitled "Education for National Integration and Development", Kampala.

Uganda, Ministry of Education (1998). Education Statistical Abstract,

Uganda Government Bureau of Statistics (1999) Statistical Abstract, Entebbe, UPPC.

Uganda, Ministry of Finance, Planning and Economic Development (1999), Uganda Vision

2025; A strategic framework for national development, summary of the main document, Kampala.

Uganda, Ministry of Education and Sports (1999). Interim Report of Education for All (EFA)

2000 Assessment, Kampala.

Uganda Bureau of Statistics (2000). 2000 Statistical Abstracts, Kampala.

Uganda, Ministry of Education and Sports (1999,2000). Mini Statistical Abstracts.

Uganda Government (2001). The Universities and Other Tertiary Institution Act. UPPC,

Entebbe.

World Bank Report 1998/99. Knowledge for Development , World Bank, Washington DC.

World Bank (1993). The East Asian Miracle: Economic Growth and Public Policy. Washington DC.

World Bank. 1993.