



# 'Knowledge':

## Development Elixir or Hegemonic Discourse?

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### Abstract

In the past twenty to thirty years, the notion of 'knowledge' has increasingly shaped development discourses worldwide. Packaged under the terms 'knowledge society' and 'information society', different types of knowledge have been identified and discussed as crucial drivers for the economic development of nation-states. At the same time 'knowledge', especially under the notion of 'knowledge for development' (World Bank 1998), increasingly moved into the focus of international development cooperation and poverty alleviation.

This paper critically assesses the notion of 'knowledge' and its paths taken from the level of global discourse to the level of national science and development policy-making in the past twenty to thirty years, by drawing on country experiences of Malaysia and Indonesia. I therefore question the notion of 'knowledge' as social and at the same time as a global construct that discursively orients and motivates (national-level) actors to design and implement global (and often western) influenced science policy. This is done by aspiring towards globally formulated areas of R&D interest rather than locally embedded R&D capacities of comparative advantage. I argue that 'knowledge', as mobilised in the discourses 'knowledge society' and 'knowledge for development' takes on a normative outlook, yet in the actual implementation of these discourses through national action

plans and development projects, it adopts a factual character. Additionally, both discourses communicate the images of a knowledge society and a society developed based on knowledge as realisable options for developing countries just as for industrialised countries. It is here where the notion of 'knowledge' takes on a hegemonic character and has to be regarded as part of an ongoing search for simplifying patterns of a global social order and 'magic bullets' for economic growth.

Conceptually, this paper builds on approaches of communicative and discursive constructivism with reference to Berger and Luckmann's deliberations on the social construction of reality (1966/1984). In particular, the sociology of knowledge approach to discourse developed by Reiner Keller (2011a, 2011b, 2005, 2003), Hubert Knoblauch's thoughts on communicative and at the same time instrumental action (1995, 2001) as well as Jo Reichertz' concept of 'communication power' (2010) guide my analysis.

### 1. Introduction

In the past twenty to thirty years, the notion of 'knowledge' has increasingly shaped development discourses worldwide – perceived as a crucial driver for the economic development of nation-states and as a key element for successful measures of international development cooperation. Packaged under the terms

'knowledge society' and 'information society', the increasing importance of different types of knowledge for the further development of economies and societies was originally assessed and conceptualised mainly by academics from Japan, the US and Europe. International organisations such as the OECD closely followed, by sharpening the economic focus of the ongoing debate and arguing for the development of 'knowledge-based economies'. From there – although far from complete – all three concepts entered the national politics of many countries which aimed at the active creation of better futures. Governments worldwide adopted the general idea of 'knowledge society' as well as the manifold terminology originating from the scientific community (Hornidge, 2011b) which resulted in an increased emphasis on science policy-making. In many countries, this led to a re-evaluation of applied versus basic research and development as well as a widening of the portfolio of scientific disciplines ranging from natural sciences and engineering to economics as well as social sciences and the arts (Hornidge, 2007b).

In the field of development, the idea of knowledge being a key element of successful activities of development cooperation and poverty alleviation culminated in 1998 in the publishing of the World Bank report with the title 'Knowledge for Development'. With this report, the notion of 'knowledge' as a driver of development entered the global development discourse. From there it was taken up by many state governments and linked to (or utilised as a new framing for) ongoing national attempts of strengthening the respective innovation systems (for economic growth) through a stronger emphasis on science policy formulation. Irrespective of their actual comparative advantages and advised by McKinsey, the World Bank and the International Monetary Fund, countries such as Malaysia and Indonesia, just as earlier done by the USA, Japan and the EU, identified information and communication technologies (ICTs) and new media, bio- and lifesciences, nanotechnologies, biotechnologies and creative industries including arts and media content production as key sectors for future development.

This paper critically assesses the notion of 'knowl-

edge' as conceptualised in notions of 'knowledge society' and 'knowledge for development', and its paths taken from the level of global discourse to the level of national science and development policy-making in Malaysia and Indonesia in the past twenty to thirty years. In doing so, 'knowledge' is understood as social and at the same time a global construct that discursively orients and motivates (national-level) actors (in Weber's understanding) to design and implement global (and often western) influenced science policy, by aspiring towards globally formulated areas of R&D interest rather than locally embedded R&D capacities that can be developed further. Elsewhere Hornidge (2012a) argues that 'knowledge', as mobilised in the discourses 'knowledge society' and 'knowledge for development' takes on a normative outlook, yet in the actual implementation of these discourses through national action plans and development projects, it adopts a factual character. Additionally, both discourses communicate the images of a knowledge society and a society developed based on knowledge as realisable options for developing just as for industrialised countries. It is here where the notion of 'knowledge' takes on a hegemonic character and has to be regarded as part of an ongoing search for simplifying patterns of a global social order and 'magic bullets' for economic growth.

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Empirically, the paper rests on seven years of largely qualitative empirical research on the construction of knowledge societies and different types and notions of 'knowledge' in and for development in Southeast Asia and Europe. While 'knowledge societies' as social constructions of reality in Singapore and Germany had formed the core of my Ph.D. research, knowledge for development, including the

studying of local epistemic cultures, science policy development and farmer-led and -oriented knowledge creation and innovation development processes in Central Asia (Uzbekistan, Tajikistan) and Southeast Asia (Indonesia, Malaysia) increasingly moved into the centre of my work since 2007.

## 2. 'Knowledge', 'Discourse' and 'Reality': The Construction of Knowledge Orders

In the early 1960s and inspired by earlier works by amongst others Alfred Schütz (1899-1959), Max Scheler (1874-1928) and Karl Mannheim (1893-1947), Peter Berger and Thomas Luckmann pointed to the dialectic relationship of 'subjective' and 'objective' reality (1966/1984). Via processes of externalisation, objectivation, and internalisations, individual conceptions of reality, which themselves are based on processes of typification, institutionalisation, legitimation and reification/socialisation, increasingly contribute to intersubjective and thus collectively shared interpretations of reality and images of a future that then guide action towards their creation. Particularly in the process of objectifying certain conceptions of reality, the use of language and, as assessed by Luckmann (1992, 2002, 2006) and Knoblauch (1995, 2001), communication, plays a central role. Reciprocal communicative action assures the continuous construction and reconstruction of these multi-layered 'subjective' and 'objective' realities. Luckmann states: 'The human social world is at least predominantly constituted in communicative action' (2006: 10). While the concept of communicative action builds on the concept of social action, it is not to be separated from instrumental action, as argued by Habermas (Knoblauch 2012). Since every form of communicative action (speaking, visualising, sms-ing, chatting, blogging, etc.) is in its application material, it is also goal-oriented instrumental action. This materiality of communicative action begins with the human body as a necessary precondition. Only the human body performs the act of communication and by doing so links subjective meaning with the environment. Con-

sequently, it is the act of communicative action that objectifies subjective meaning.

Every communicative action is subject to a specific interpretation of reality and as such also to a specific definition of knowledge. What then is regarded as knowledge and thus as reality? Which ideological orientation of knowledge does the actor (and here the individual just as much as intersubjectively the collective) employ, advocate or negate? As such the (every day) conceptions of reality and underlying knowledge definitions are of fundamental importance in the definition and practical realisation of the multilayered and spatially diverse conceptions of reality and connected images of the future that we can observe globally. Berger and Luckmann argue for a rather open definition of knowledge and suggest regarding everything as 'knowledge' that is perceived in and by society (1984: 16). Consequently, it also can be understood as a resource connected with its carrier that guides human action.

This paper adopts this definition of knowledge with the aim to assess 'knowledge' as captured in concepts of 'knowledge society' and 'knowledge for development' not only with regard to the definitions of knowledge and intersubjectively shared interpretations of reality underlying these concepts, but additionally to the discursive and communicative processes of the construction of reality. This entails the question, whose definitions of knowledge and conceptions of reality compete and succeed in processes of communicative action and whose do not. As argued by Reichertz (2012), positions of power are established and legitimised by means of communicative action, where inequalities are produced and reinforced. By means of communication, an evaluation, ranking and hierarchisation takes place that can be of identity-shaping character given that they become part of the conceptions of reality of the involved actors. 'Communicative power' (Reichertz 2010) arises out of reciprocal relationships that individual and collective actors repeatedly entertain. In the suggested assessment, it is of central interest as the studied discourses of knowledge experience global and reality shaping expansion, through exactly these reciprocal relationships, the exercising of communicative power

on the side of some and the repeated acceptance of the communicative power of the counterpart on the side of others.

Additionally relevant is Foucault's work on discourses as socio-historically situated practices, discursive formations and contestations, statements, dispositifs and power/knowledge complexes with institutional, organisational and societal consequences (1974, 1988). A respective further development of social constructivist thoughts can be found in the sociology of knowledge approach to discourse by Reiner Keller (2001, 2005, 2011a, 2011b). Keller moves the focus of analysis to collective actors and institutionalised, discursively embedded processes of public communication in the construction of reality. As such he upholds the action-theoretical perspective of social constructivism, but widens it with regard to collective actors by incorporating structural-theoretical elements of Foucault which can be found in social institutions communicating and continuously strengthening particular conceptions of systems of power and knowledge.

Discourses, understood as 'the identifiable ensembles of cognitive and normative devices' (Keller 2005:7), communicate, legitimise, objectify and in consequence construct structures of meaning with societal consequences on the institutional, organisational and actor level. Keller suggests assessing discourses as power/knowledge complexes, which exist through and in 'practices' and 'dispositifs'. 'Practices' are broadly defined as conventionalised patterns of action, based on collective stocks of knowledge about the 'proper' way of acting. Yet, in more detail, a distinction is made between discursive practices and non-discursive practices constituting the social processing of discourses, as well as model practices (i.e. templates for action) constituted in discourses for the respective addressees (2011b: 55, 2011a: 255-257). 'Dispositifs' are defined as an infrastructure established by social actors or collectivities in order to solve a particular situation, with the more detailed distinction made between dispositifs of discourse production and dispositifs or infrastructures emerging out of a discourse. The latter then again can be 'both: the institutional foundation, the total of all material, prac-

tical, personal, cognitive, and normative infrastructure of discourse production', as well as the infrastructures of discourse implementation (2011b: 56, 2011a: 258-260). This distinction of discourses constituted in social practices as well as the resulting dispositifs also underline the material and immaterial character of discourses, while at the same time not forgetting the role of social actors in constructing and reconstructing 'realities'. With regard to the relationship between discourse (as structure) and singular discursive events and practices, Keller refers to Giddens' 'duality of structure' (1992) and the mutually reinforcing relationship between human action or social practices and the structures in place. He proposes that discourse as structure offers (a) normative orientations and rules for the way of saying things; (b) rules of signification for meaning constitution; and (c) social and material resources for action (Keller 2005: 6).

From the above discussion, the sociology of knowledge approach to discourse appears relevant for several reasons. Assessing different discourses of knowledge, as captured under the notions of 'knowledge society' as well as 'knowledge for development' entails to study (a) their socio-historical embeddings; (b) their construction as normative, social imaginaries of a better future, each revolving around the idea of 'knowledge' being increasingly crucial to development; (c) their 'factual', 'concrete and material' construction as improved levels of development with social consequences on the institutional, organisational and social actors' level; as well as (d) some of the (un)-intended power effects. In doing so, discursive, non-discursive and model practices, dispositifs of discourse production and dispositifs in consequence of the discourses as well as the actors who are partly determined by and partly are themselves determining the discourses, form the empirical focus. With reference to the further development of Foucault's work on discourses realised by SKAD, these different discourses of 'knowledge' therefore are assessed as 'performative statement practices which constitute reality orders and also produce power effects in a conflict-ridden network of social actors, institutional dispositifs, and knowledge systems' (Keller 2011b: 48).

Irrespective of studying 'knowledge' as captured

under 'knowledge society' or 'knowledge for development' both discourses of knowledge originating from the North have been successively internationalised and have finally taken on a global character. Both discourses rest on the assumption that 'knowledge', and here especially (western) technological expert knowledge, is not only a central part of, but increasingly engine of social and economic progress. While the idea of the 'knowledge society' as a future form of societal development was predominantly formulated and conceptualised by academics in the US, Japan and the EU, and inspired by developments in the information and communication technology sector, the conception of an increasing importance of 'knowledge' in the field of development cooperation and poverty alleviation in the 'to be developed' south received comparable attention especially in the field of international and multilateral organisations in the late 1990s. Both discourses are geared by the underlying assumption of an economic and social superiority of the 'progressive' North over the rest of the world and connected to this a respective, but differently explicitly formulated attitude of ruling (Herrschaftsdenken). The intersubjectively shared conceptions of reality, and thus of 'knowledge', explicitly and less explicitly formulated in both discourses, correspond with images of a societal future which were thought of and developed predominantly in western industrialised societies and on the background of a global economic system, which rests on massive inequalities. Despite this, they formulate not only images of future societies for the countries that they originate from, but furthermore express, through their global communication, dissemination and adoption by national decision-makers in government programs and international organisations, a global knowledge and power order that is likely to strengthen today's inequalities further. 'Knowledge' captured and communicated in discourses on 'knowledge society' and 'knowledge for development' consequently takes on a normative, factual and hegemonic character. In the following, I will offer a short insight into the normative and factual sides of the two discourses of knowledge, before addressing their hegemonic character by using Malaysia and Indonesia as empirical cases.

### 3. 'Knowledge' as Normative and Factual Discourse

The theoretical debate on the concepts of knowledge society can be structured into a primary<sup>1</sup> and a secondary phase<sup>2</sup> (Hornidge 2007, 2011b). During the primary phase and inspired by developments in the information and communication technology sector, especially the internet, several scientists developed the idea of knowledge, information, as well as information and communication technologies which became increasingly important for economic and social development, leading to a new stage of development, following industrial society. The secondary phase of construction is characterised by the further development of the conceptual ideas, increasing their empirical base, depth and the theorising of these empirical data. While the conceptual ideas leading to the concepts 'knowledge society' and 'information society' were mainly developed in the 1960s to the 1980s, the conceptual basis of the 'knowledge-based economy' was formed mainly in the 1990s.

With the development of these diverse conceptualisations of 'knowledge society', 'information society' and 'knowledge-based economy', a multitude of minimally diverging terms and definitions was also created. Furthermore, during the secondary phase, the different concepts and terms attached entered the sphere of national policy-making of many countries. In the realm of scientific debate, the image of an arising 'knowledge society' had successfully been established as an image of a future state of development, following the phase of industrial society. This is a state in which knowledge would form the key resource for any form of societal and economic development, similar to land, capital and labour in industrial society. As such, the notion of 'knowledge society' was lifted to the level of a new standard, a new measuring rod of development to be attained.

In the field of development cooperation and poverty alleviation, the global hype around 'knowledge society' in 1996 was taken up by World Bank President James Wolfensohn, who, inspired by the G7 'Global Information Society' Meeting in Brussels 1995 and the 'Information Society and Development'

Conference 1996 in South Africa, rebranded the bank from a 'lending bank' into 'the knowledge bank' (King & McGrath 2004). In 1997, the Global Knowledge Partnership organised the first 'Global Knowledge Conference' in Toronto, Canada (GKP 1997a). The conference brought together the global development and donor community, government and planning officials from developing countries, non-governmental organisations and the private sector with the aim to discuss 'the role of the "information revolution" in the development process' (GKP 1997b). Inspired by these predecessors, the idea of 'knowledge' being a key element of successful development cooperation and poverty alleviation culminated in the publishing of the World Bank report (1999) entitled 'Knowledge for Development'. Envisioning a future saturated with knowledge and knowledge application, the report states: 'Knowledge is like light. Weightless and intangible, it can easily travel the world, enlighten the lives of people everywhere' (WB 1999: 1). With this report, the notion of 'knowledge' as a driver of development, and topic of debate since centuries, reached the summit of global (donor-driven) development discourse. From there it globally triggered further development interventions, framed around the issue of 'knowledge for development'. The report focuses, as explicitly stated on page 1, on two sorts of knowledge and two types of problems, perceived as 'critical to developing countries' by the bank. These are 'knowledge about technology', also referred to as 'technical knowledge' or 'know-how', as well as 'knowledge about attributes', such as 'the quality of a product, the diligence of a worker or the creditworthiness of a firm' and incomplete knowledge about attributes, referred to as 'information problems' (WB 1999: 1). As such, the report adopts a technology focused on as well as highly applied definition of knowledge, based on the clearly stated assumption (1999: 1) that the employment of these two types of knowledge as well as their delivery when they are missing by international institutions and developing country governments will further enable the donor organisations' activities, projects and programs in bringing about 'development'. The report consequently adopts a conceptualisation of 'knowledge' that at that time and until the present day

also forms the core of the envisioned 'knowledge societies' and constructs it as crucial for development and thus as focus of program and project planning of international donor organisations in the years to come.

Both discourses on 'knowledge society' and 'knowledge for development', predict a presumably better future by means of the production, application and diffusion of 'knowledge' as a societal and economic elixir. By means of oral (i.e. public speeches) and written (i.e. academic publications, conference papers, yearly reports) communicative action, a largely technology-focused and application-oriented conceptualisation of (expert) knowledge is in both discourses lifted by largely academics and multilateral organisations of the 'North' to a new standard, and legitimised by pointing to economic 'necessities'. It is here where 'knowledge' as captured in both discourses takes on a normative character. The newly accepted norms of 'development' being knowledge-driven and thus the focus on a certain type of knowledge to be integrated in national policy-making and international development cooperation, guided action on the level of national governments and multinational organisations in the years to follow.

With the notions of 'knowledge society' and 'knowledge for development' the implicitly communicated conceptualisations of knowledge were carried into national and international policy-making and program design. Amongst the most commonly defined key sectors by national governments in their action programs towards 'knowledge society' are the information and communication technologies, nano- and biotechnology, life sciences and creative industries.<sup>3</sup> Furthermore, in the field of development cooperation and poverty alleviation, a strong path dependency towards technological expert knowledge from the North can be assessed: in projects and programs with reference to the 'knowledge for development' discourse as well as in related projects, such dependency is captured under keywords such as 'information and communication technologies (ICT) for development' and 'innovations and innovation systems for development' (Hornidge 2012a).

In the US, for example, Bill Clinton, then Gover-

nor and his Senator Al Gore in 1992, and inspired by the technological developments of the military sponsored ARPANET (later the internet), identified the construction of an 'information infrastructure' (renamed as the 'information superhighway' by the public) as the guiding theme of a successful presidential campaign (Kubicek 1999: 70-71; Read & Youtie 1995: 101; Schneider 1997: 345). Consequently, and shortly after stepping into office, an 'Information Infrastructure Task Force (IITF)' was founded (IITF 1993, 1994a, 1994b). With the aim to create 'universal access' for everyone to the National Information Infrastructure (NII), it resulted, despite some detours (i.e. foundation of the National Telecommunications and Information Administration – NTIA), in the deregulation of the telecommunication sector (reform of the telecommunication law, 1996; Kubicek 1999:70). Further areas of legal reform were copyright, data security and coding, control of illegal discriminating contents as well as the equipment of schools. In the second term of the Clinton-/Gore-administration, the focus shifted to numerous projects aiming at the final user. Hence, NII was continued to be built, but at a more user-oriented level than before.

So while the US regarded the information superhighway as a solution to the US infrastructural crisis of the early 1990s and at the same time contributed to the successful presidential campaign of Bill Clinton, Japan hoped for a solution to the hollowing out of its manufacturing industry. As such, the Japan Computer Usage Development Institute in 1971 produced a governmental action plan with the title 'The Plan for an Information Society: A National Goal towards the Year 2000' (Vogel 2000: 286-288), in which a fully ICT-linked and -embracing economy and society is envisioned as a model of Japan's future (Mattelart, 2003:91-92). Interestingly the Federal Ministry of Education and Science of Germany published a German translation of this report (entitled 'Japans Technologische Strategie') merely one year after its publication in Japan (BMBW 1972). This suggests that while the German government was not yet speaking of a German knowledge or information society, the activities of other players, i.e. Japan, were monitored.<sup>4</sup>

At the level of the European Union, 'knowledge society' as a topic only gained relevance in the early 1980s and can be regarded as the European reaction to the pressures of global competition and rising unemployment numbers. Similar to the US and Japan, the European Union first focused on the construction of the respective ICT-infrastructure and its application in the private and public sectors as well as private homes (Campbell & Konert 1998: 73-74; Vogel 2000: 324-333). At the beginning of the 1990s, the European Commission published the White Paper 'Growth, Competitiveness, Employment – The Challenges and Ways forward into the 21st Century' (1993). It emphasises the importance of trans-European networks as stimulation for the European economy and a decrease in unemployment. The construction of information networks and European networks in the transport and energy sectors were to be of prime importance. This was then followed by the report 'Europe and the Global Information Society – Recommendations to the European Council' in 1994, which also became known under the name of the expert group's lead author Martin Bangemann (Bangemann 1994). The group argued that the best support for information networks and services would be open and competitive markets.<sup>5</sup> The Bangemann-Report can be regarded as EU's master-document and key reference point for the liberalisation of the European telecommunication sectors in the following years (Preston 1997: 282). On its basis and after being requested to do so by the European Heads of State and Government, the Commission of the European Union published several action plans envisioning and concretely planning Europe's way into a 'knowledge society', with the first one 'Europe's Way to the Information Society' even following in the same year (EC 1994). It was then followed up in action plans such as the 'Green Paper on Living and Working in the Information Society: People first' (EC 1996a), 'Europe at the Forefront of the global Information Society' (EC 1996b), 'eEurope 2000' (EC 2000), 'eEurope 2005' (EC 2002) and 'i2010 – A European Information Society for growth and Employment' (EC 2005).

Similar to the 'knowledge society' image of reality, the content orientation 'knowledge for development'

gained worldwide reception. Multiple national and multilateral organisations in the field of development cooperation and poverty alleviation adopted the content focus in their program design. While in the 1990s the World Bank propagated 'knowledge for development' acted as its main driver, its technology focus was soon also mirrored in the adopted terminologies and 'ICT for development' increasingly moved to the forefront (Hornidge 2012c). Consequently, the Millennium Declaration of the United Nations, published in 2000, underlined the provision of access to information and communication technologies as a crucial development goal (UN 2000, Millennium Development Goal (MDG) 20): 'We [the heads of State and Government] also resolve, to ensure that the benefits of new technologies, especially information and communication technologies, in conformity with recommendations contained in the Economic and Social Council (ECOSOC) 2000 Ministerial Declaration, are available to all.' In the same year, and framed around the concern of closing the 'digital divide', the Okinawa Charter on the Global Information Society (ADB 2000) emphasised the role of investing into the building of ICT-infrastructure. The charter's focus legitimated itself by pointing to the aim to foster 'development' in less developed and potentially, in the future even more left behind regions, due to insufficient ICT-access in times of a 'global information society'.

In December 2001, the General Assembly of the United Nations once more underlined the importance of information and communication technologies for achieving the millennium development goals and announced the organisation of a UN World Summit for the Information Society, sponsored by the UN (UN 2002) and organised under the leadership of the International Telecommunication Union (ITU). Besides ITU, numerous UN organisations (i.e. UNDP; UNESCO, UNICEF and WHO), international financial institutions, (i.e. World Bank and IMF), as well as more than 50 heads of state contributed to the organisation. Here, the already existing technology dominance in the conceptualisation of knowledge followed up under 'knowledge for development' was, under the lead of the telecommunication sector, further consol-

idated. As such the World Bank in early 2002 published its ICT Sector Strategy Paper 'Information and Communication Technologies – A World Bank Group Strategy' (WB 2002b). Together with its follow-up document 'ICT and MDGs – A World Bank Group Perspective' (WB 2003), they repeatedly stress the importance of the further extension of ICT-networks and applications with the financial means of international donor organisations, including the World Bank itself, and as part of the 'fight against poverty'. The two parts of the UN-World Summit for the Information Society finally took place in 2003 in Geneva and 2005 in Tunis. The most controversially discussed topic of 'internet governance' in the hands of the US-based Internet Corporation for Assigned Names and Numbers (ICANN) nevertheless could not be solved (WSIS 2003, 2005). In 2002, even the United Nations Educational, Scientific and Cultural Organisation (UNESCO) identified in its Medium-Term Strategy 2002-2007 'the contribution of information and communication technologies to education, science, culture and information and the building of knowledge societies' besides 'poverty alleviation' as one of two cross-cutting themes which had to be part of all UNESCO activities in the given time span (2002: 1). As opposed to the World Bank, UNESCO did not adopt a technology-focused (expert) knowledge conceptualisation, but instead – as it is its overall mandate – emphasised an open, integrating definition, taking into account different conceptualisations of knowledge. Together with the UNESCO conceptualisation of knowledge not just 'for development' but also in a 'knowledge society' outlined in UNESCO's World Report 'Towards Knowledge Societies' (2005), it stands for a globally communicated alternative, but largely overheard (Hornidge 2012c), knowledge conceptualisation, and thus in opposition to the dominating technology- and application-oriented definition. This is also indicated by multiple international donor organisations moving away from using the terminology 'knowledge for development' and turning instead to 'ICT for development' since the early 2000s.

This brief review of the normatively propagated concepts 'knowledge society' and 'knowledge for de-



velopment' on the side of national governments aiming for economic growth as well as international donor organisations aiming for international cooperation suggests a regard for 'knowledge' in the portrayed arena as a factual discourse. National action plans and programs, government commissions, their final reports and parliamentary debates and decisions were the main adopted forms of communicative action constituting the discourse amongst national level policy-makers. 'Knowledge for development', in contrast, was mainly communicated in international conferences and summits of international donor organisations, as well as the decisions, program designs, the establishment of 'task forces' and knowledge centred funding lines for cooperation and development projects. The originally normatively communicated images of reality 'knowledge society' and 'knowledge for development' took on a factual character once adopted in national policies and the program design and implementation of international donor organisations, publicly and globally communicated and legitimised through representatives of national governments of industrialised countries of the North, as well as influential international donor organisations. In both discourses, the knowledge-centred conceptions of reality, already with connotations connected but still relatively open, through technocratic as well as power-driven political processes of policy-making and implementation involved discursive-communicative practices, lost their non-bias. These discourses increasingly took on a clear technology- and application-oriented character, terminologically depicted by a move from 'knowledge society' to 'information society' and from 'knowledge for development' to 'ICT for development'.

The technocratic, factual discourse is no longer geared towards only 'knowledge', but increasingly information and communication technologies as technological knowledge infrastructure in the context of international cooperation and for the design of economic and science policy-making of developing countries additionally took on hegemonic traits. In the following I assess 'knowledge' as a normative concept that comes with hegemonic character, by analysing the cases of Malaysia and Indonesia. Such

a concept, which through its diffusion from the largely western/northern sciences into the political sphere of its 'countries of origin' and then through bilateral and multilateral cooperation, has successively influenced national-level policy-making of many developing and transforming countries.

#### 4. 'Knowledge' as Hegemonic Discourse

At the beginning of the 1990s, Malaysia and Indonesia, as two developing nations with the ambition to follow Singapore's path in developing itself into a fully industrialised society within 3 decades, adopted an aim to develop local knowledge hubs that would then form the basis for further development into knowledge societies. Using these two cases, the following discusses the notion of 'knowledge' as defined in, and communicated as an international norm vis-a-vis the notions of 'knowledge society' in the context of economic development cooperation as hegemonic in character.

##### *Malaysia*

In 1991, Malaysia's then Prime Minister Dr. Mohamad bin Mahathir in his 'Vision 2020' (Wawasan 2020) drew the following picture: 'There was a time when land was the most fundamental basis of prosperity and wealth. Then came the second wave, the age of industrialisation. Smokestacks rose where the fields were once cultivated. Now, increasingly, knowledge will not only be the basis of power but also prosperity ... No effort must be spared in the creation of an information rich Malaysian society' (Mahathir 28.02.1991). The realisation of this vision was then pursued by the sixth to the ninth Malaysia Plan (6-9MP).

In August 1996, the Malaysian government began construction of the 50km long, 15km wide Multimedia Super Corridor Malaysia, South of Kuala Lumpur, including Putrajaya (the new administrative capital), Cyberjaya (the ICT hub), Kuala Lumpur Conference Centre and Kuala Lumpur International Airport (Bunnell 2002; Evers et al. 2010). Commis-

sioned with the design and construction of the corridor was the Multimedia Development Corporation (MDC), which was not only advised in this endeavour by the Economic Planning Unit of the Office of the Prime Minister of Malaysia, but additionally by McKinsey, the International Monetary Fund (IMF) and the World Bank, as international representatives of neoliberal politics (Khor 2000).

In 1998, the Prime Minister outlined its image of the Multimedia-Super-Corridor once more: 'The Multimedia Super-Corridor will be a [...] multicultural web of mutually dependent international and Malaysian companies collaborating to deliver new products and new services across an economically vibrant Asia and beyond. [...] Such a web could be the new model of development for the Information Age [...] we are not just talking buildings' (qtd. in MDC 1998:3-4; Indergaard 2003:379).<sup>6</sup> Bunnell speaks of 'a specifically high-tech strand of developmental utopianism' (Bunnell 2002:267).

As such, the government of Malaysia identified 'information and communication technologies, including software development', 'advanced electronics', 'biotechnology' and 'creative multimedia'<sup>7</sup> as key sectors of Malaysia's knowledge economy (Evers et al. 2010:3; Taylor 2003). Malaysia thus delved into the creation of a 'knowledge economy' by identifying those sectors for knowledge and innovation development that were also identified as key sectors for further development by the countries from where the whole idea of 'knowledge society' and 'economy' originated: mainly western, industrialised countries which conceptualised 'knowledge society' or 'knowledge-based economy' as a phase of economic and societal development, following their current phase as industrial societies.

Malaysia, in the early 1990s, largely generated its income by relying on agriculture, plantation and mining activities as well as low-tech manufacturing industry. Despite this difference and inspired by the global hype towards the creation of 'knowledge societies' or 'knowledge-based economies', Malaysia's government, in its Economic Recovery Program of the late 1990s, adopted this vision and identified a common set of key economic sectors. It also identified the frontrun-

ners on the path towards 'knowledge society', which were the US, Japan and the EU, Singapore, as well as South Korea.

Despite the sudden focus on ICTs and the new media, bio- and lifesciences, nanotechnologies, biotechnologies and creative industries including arts and media content production in the US, Japan and the EU, did not turn out to be the entire solution to the problems faced (in Japan: hollowing out of manufacturing industry, in EU: increasing unemployment, in US: infrastructural crisis and presidential campaign). In the case of Malaysia, these sectors had even a weaker foundation to rest on.

Today, twelve years after the opening of the MSC, Malaysia's aspired Silicon Valley, only less than 400 companies are located in Cyberjaya, '[most of which] focus on call centers and data processing activities' (Evers et al. 2010:15). The patents registered with the Malaysian Intellectual Property Organisation indicate that less than 10% of these companies had never registered a patent until December 2008. Similarly, but with regards to scientific publications recorded in the ISI Web of Science, only 3 companies located in Cyberjaya have recorded publications from the end of 2009. The yearly registered patents have increased in total numbers from 12 in 2000 to 108 in 2009 (Evers et al. 2010: 15).<sup>8</sup>

Consequently, one can, with regard to Malaysia, assess the immense investments and government activities flowing into the construction of economic sectors such as ICT, software development and biotechnology, legitimised and driven by the vision of developing Malaysia into a 'knowledge society'. At the same time, Fatimah (2009) assesses a relatively low degree of innovation and knowledge development taking place in Malaysia's 'traditional' economic sectors such as agriculture, plantation and mining, but with high dependence on foreign labour.

It therefore seems necessary to ask, why did Malaysia decide to invest in fostering creativity and knowledge production in economic sectors alien to its economic environment? Bunnell (2002:267) identifies the following two decisive reasons: (a) to integrate Malaysia, with the help of constructing a 'soft' and 'hard' infrastructure comparable to western

knowledge society into the world economy; and (b) to become technologically independent, as a producing rather than importing country of knowledge and technology.

While this explanation also matches those given by Malaysia's government, it does not explain why Malaysia did not identify sectors traditionally embedded in its economic and social system as future sectors of research and development; sectors in which Malaysia could actually offer a comparative advantage over other countries.

The most immediate example that comes to mind is natural and synthetic rubber production. In 1990, Malaysia was the world's largest producer of natural rubber accounting for one-quarter of the world production. By 1993, production was overtaken by Thailand and Indonesia. During the late 1990s, production of synthetic rubbers undercut the natural rubber industry and basically led to its demise in Malaysia.<sup>9</sup> Instead of utilising its comparative advantage and advancing the knowledge intensive development of synthetic rubber further, Malaysia's government (advised by McKinsey, World Bank and IMF) followed the global 'knowledge society' discourse and heavily invested into the development of ICT and biotechnology sectors in which Malaysia

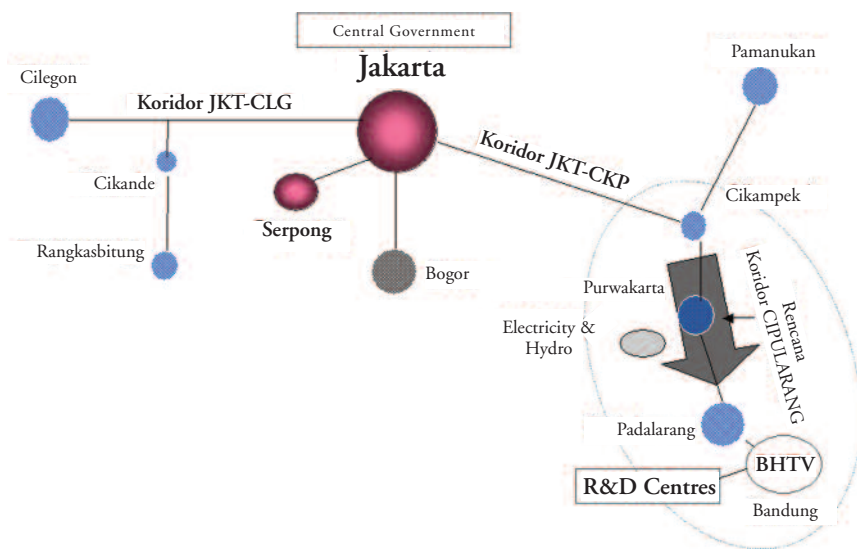
today, 12 years later, mainly performs supporting tasks to the actual ICT and biotechnology R&D centres elsewhere.

*Indonesia*<sup>10</sup>

A similar case can be found in Indonesia. In the mid-1990's, Indonesia's government, at that time under the presidency of Suharto, adopted the vision of a 'knowledge society'. In 1996, the government, under the lead of the Ministry for Industry and Trade of Indonesia (MITI, now the Ministry of Industry), together with a group of McKinsey-consultants, formulated recommendations for the further promotion and development of knowledge-intensive industries in Indonesia. These, amongst others, comprised the construction of a 'Super Highway' in the shape of a high-technology corridor between Cilegon-Jakarta-Cikampek-Purwakarta-Padalarang-Bandung as well as the establishment of Bandung as a 'High-Tech-Valley' in the field of technology-oriented research and development (Rahardjo, 2002). Significant investments were also aimed at the development of Indonesia's high technology industry such as the Indonesian Aircraft Industry (IPTN, or today also known as PT DI) (Sulfikar 2007; 2008).

**Diagram: Nusantara 21 Indonesia**

Source: Rahardjo (2002:5)



Interrupted by the financial crisis in Southeast Asia, as well as the connected political restructurings in Indonesia (led by the change in presidency from Suharto to Habibie), these plans were not taken up again until 2001. Here, the government of Indonesia formulated, as part of the National Framework for Information Technology, the vision statement 'Creating a Nusantara Telematic Society by the Year 2020' (Evers, 2003:357). Furthermore, the President of Indonesia issued the decree on 'telematics' – the use of ICT in Indonesian e-business, e-democracy, e-government, e-education, and e-industry (no.6/2001). The implementation of this decree became part of the responsibility of the newly – for this purpose – established Ministry of Information and Communication (Pannen, 2003:8). In 2006, the Ministry of Research and Technology (Kementerian Riset dan Teknologi – RISTEK) published Indonesia's national research agenda 'Research, Development and Implementation of Science and Technology', often referred to as Indonesia's 'White Book 2005-2025'. The research agenda focuses on seven areas including information and communication technology, food security, energy, technology and transportation management, defence, medicine and advanced material sciences (RISTEK 2006). It is until today regarded as the main strategic planning document of Indonesia's government in the field of research and technology development. The book itself legitimises its long-term planning from 2005 to 2025 by pointing to Indonesia's transition from a resource-based economy to a knowledge-based economy. In 2010, the original planning document was further refined for the phase 2010 to 2014, while staying with the seven core research areas identified earlier (RISTEK 2011).<sup>11</sup>

In addition to these agenda settings by the Ministry of Research and Technology, the Ministry for Economic Affairs as a leading institution in 2011 developed a master plan for the acceleration and expansion of Indonesia's economic development for the period of 2011 to 2025. Here, four focal areas to encourage economic growth are identified: basic industries (food, medicine, energy and water supply), creative industries (culture and ICT based), local capacity-based industries (science and technology parks

as well as industrial park development), strategic industries (defence and transportation). Interestingly, the master plan revitalised the earlier focus on cluster developments (science, technology and industrial parks). Furthermore it emphasised the importance of 'an educated pool of human resource' (Menko-Perekonomian 2011: 39-40), thus emphasising the role of capacity building in knowledge development and cluster formation. In doing so, the plan aimed at developing Indonesia into the 9<sup>th</sup> largest economy in the world with a national GDP of around USD 4-4,5 Trillion by 2025 (Menko-Perekonomian 2011). Similar to earlier master plans with the aim to develop Indonesia's 'knowledge-based economy', it was designed by the Boston Consulting Group and funded by the Japan International Cooperation Agency (JICA) (Purwaningrum 2012). The capital required for the master plans implementation amounted to USD 400 billion (Manning and Purnagunawan 2011).

As with the US, EU, Japan, Singapore, Malaysia and many other countries, Indonesia identified information and communication technologies, the application of these in all sectors of private and professional life, and cluster development as central elements on the path towards a 'knowledge society'. In the implementation of these plans, nevertheless, Indonesia has so far heavily concentrated on the promotion of manufacturing industries (in cluster developments). Local comparative advantages, existing for example in the areas of traditional medicine (Jamu), were less considered.

'Knowledge', as grasped under the catchword of the 'knowledge society' therefore cannot only be regarded as a normative science discourse, as argued in the first part of the article, but also as hegemonic discourse. Hegemonic, as these 'northern' concepts of the 'knowledge society' were formulated as 'international standards', was communicated as worldwide trend-setting (Keim, 2007:121). Besides the export of the concepts, this is also true for the operationalisation and implementation of these, often under the advice of McKinsey, the World Bank and the IMF.

As such, it seems justified to regard the notion of 'knowledge society' as part of global debates of the last

two decades which repeatedly focused on formulating simplified patterns of explanation for a global order (Schetter, 2008:19ff)<sup>12</sup>, as well as identifying a 'magic bullet' for economic growth, development and local identity creation. The above mentioned information and communication technologies, knowledge based economy and cluster developments in the shape of industrial parks or free trade zones are just some examples of such 'magic bullets', which, especially in the 1980s and 1990s, often took on a neoliberal character (Broad, 2006).

## 5. Concluding Remarks

Based on the above, I argue that the notion of 'knowledge' as grasped in concepts such as 'knowledge society' and 'knowledge for development' takes on a (a) normative; (b) factual; and (c) hegemonic character. Normative as 'knowledge' as a crucial ingredient for a 'knowledge society', the expected development phase to follow the industrial society, is lifted through international scientific discourses to the level of forming a new standard, a norm for 'the next step' of development. Factual as the idea of 'knowledge' increasingly replacing land, labour and capital as production factor has entered national and international policy-making. The hegemonic character of knowledge, as has been adopted into 'knowledge infrastructures', i.e. ICTs, R&D clusters and high-technology knowledge production, was in itself and in the ways it was communicated powerful enough to lead many nations, far off from entering the development phase after the industrial society, to heavily invest into the construction of these 'knowledge infrastructures' as defined by many countries with better starting positions. Hence, 'knowledge' as captured in the notions of 'knowledge society' and 'knowledge for development' in itself acts as a hegemonic construct that guides action (*handlungsleitend*) by influencing national and international development politics.

Through the pointed out gap between a normatively, factually and hegemonically communicated conception of a potential future (with 'knowledge' in its conceptual centre), the paths taken (by social ac-

tors) in realising this imaginary, and actual local realities, I hope to have shed further (and critically inspired) light on the discourses surrounding the notion of 'knowledge' as conceptualised under the different notions of 'knowledge society' as well as in the catchphrase of 'knowledge for development'. Governments worldwide (and similarly in the North and South) adopted this imaginary and its guiding notion of the 'knowledge society' and followed – in its name – certain patterns. Sectors such as the information and communication technologies, nano- and biotechnology, lifesciences and creative industries were identified as future economic sectors and their construction pursued. As yet 'nameless' regions were renamed into 'Multi-media-Super-corridors' and 'Biopolis' and by doing so additional constructs orienting, motivating and guiding further action were created. As Bhatia contends: 'To name is to identify an object, remove it from the unknown, and then assign to it a set of characteristics, motives, values and behaviors' (2005:8). While these constructs in many aspects pursued the examples, normatively communicated as 'international standards', and by doing so neglected local comparative advantages in other knowledge intensive sectors, they at the same time are the 'localised' definitions of 'knowledge society', which in the future are likely to themselves guide further action. The discourses surrounding these newly created 'guiding lamps' (to use a term with which the founder of Biopolis in Singapore likes to describe himself – Hornidge, 2007a) are – in the attempt to legitimise their own existence – likely to further emphasise the role of 'knowledge for development. Yet the collected experiences and an increasingly emerging discourse on the importance of local knowledge for development yield hope for a more conscious integration of existing (but to be developed further) comparative advantages and expertise into future knowledge-focused economic development agendas.

## Notes

<sup>1</sup> Here, theorists such as Umesao (1963), Nora & Minc (1979) and Castells (1989, 1996, 1997, 1998) can be named as contributors to the concept of a technology determined society, often called 'information society'. Lane (1966), Bell (1973, 1987), Touraine (1969), Kreibich (1986), Böhme & Stehr (1986), Willke (1998) and Gibbons et al (1994) worked on a concept of a knowledge-driven society, generally labeled 'knowledge society', while Machlup (1962), Porat (1976) and Drucker (1969, 1993a, 1993b) can be listed together with international organisations such as OECD (1996a, b) and APEC (1998, 2000) as theorists constructing the concept of a 'knowledge-based economy'.

<sup>2</sup> Contributors to this secondary phase of construction include Kumar (1978); Gershuny (1978); Collins (1981); Lyon (1988, 1996); Dordick & Wang (1993); Stehr (1994, 1999, 2001a, 2001b); Webster (1995); Willke (1998, 1999); Maasen (1999); Dunning (2000); Evers (2000, 2002a, 2002b, 2003, 2005); Evers et al (2000); Hofmann (2001); Steinbicker (2001); David & Foray (2002); Lloyd & Payne (2002); Evers & Menkhoff (2003); Mattelart (2003); Evers & Gerke (2005); Knoblauch (2004, 2005); Kübler (2005); Tänzler, Knoblauch & Soeffner (2006) and Evers & Hornidge (2007).

<sup>3</sup> Also see Hornidge (2007b, 2011a, 2010) and Evers & Hornidge (2007).

<sup>4</sup> The first mention of the terms 'information society' and 'information economy' in a German federal government document can be found in the final report of the enquete-commission 'Future of the Media in the Economy and Society – Germany's Road into the Information Society' (DBt, 1998).

<sup>5</sup> The report outlines four steps to shape Europe's way into a knowledge society: (a) the liberalisation of Europe's telecommunication markets; (b) the creation of a common regulatory framework regarding standardisation; (c) the protection of intellectual property rights; and (d) respect of privacy and the security of data transmission.

<sup>6</sup> As framed on the MSC website, the MSC was created "to transform the nation into a knowledge based society driven by the new economy the necessary facilities and technical skills for local and foreign businesses" (MSC Malaysia, 2010 - <http://www.mscomalaysia.my/topic/12073059198422>). In 2001, Dr. Mahathir once more underlined his vision by stating: "In our pursuit towards developing the K-economy, knowledge has to replace labor and capital as the key factors of production in our economy. The challenge for Malaysia is to develop this knowledge amongst our talents and knowledge workers" (Dr. Mahathir bin Mohamad, Putrajaya 8 March

2001 – advertisement in the New Straits Times 13-04-2001).

<sup>7</sup> [http://www.mida.gov.my/en\\_v2/index.php?page=multimedia-super-corridor-2](http://www.mida.gov.my/en_v2/index.php?page=multimedia-super-corridor-2)

<sup>8</sup> As Bunnell (2002:284) notes: 'Land that was at best "empty" space, but that in state terms more likely signified an obsolescent economics of commodity dependence, was thus imagined as being "developed" to facilitate Malaysia's passage to the Information Age.'

<sup>9</sup> <http://www.nationsencyclopedia.com/Asia-and-Oceania/Malaysia-ECONOMY.html>.

<sup>10</sup> This section is based on intensive discussions with and inputs by Farah Purwaningrum.

<sup>11</sup> Details can be found in the Minister of RISTEK Decision No. 193/M/Kp/IV/2010 on the IPTEK Strategic Planning for the National Development 2010 -2014. This was later revised in the Minister of RISTEK Decision No.2436/M/Kp/IX/2011 on the Alteration of the Strategic Planning of the Ministry of RISTEK 2010-2014.

<sup>12</sup> Examples for such attempts form Samuel Huntington's 'Clash of Civilisations – The Remaking of World Order', as well as Robert Cooper 'The Breaking of Nations – Order and Chaos in the Twenty-first Century'.

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