



Georgy Toloraya, Vladimir Khrustalev

THE FUTURE OF NORTH KOREA:
WAITING FOR THE RESOLUTION?

From: Vladimir Khrustalev
To: Georgy Toloraya
Subject: A Comatose Patient?

Good afternoon, dear Georgy Davydovich!

I am happy to discuss with you such exciting topic, the urgency of which is obvious. The dismantlement of the North Korean nuclear program goes slowly, there is a growing uncertainty about the health of Kim Jong-il, the role of the D.P.R.K in the Northeast Asia, global implications of the missile and nuclear programs of this country (used by the United States to implement its military-technical projects) – all this makes the debate quite topical. After all, North Korea is our neighbor and any *force-majeure* would have immediate impact on the Russian Far East and, at worst, on the entire world.

Meanwhile, the D.P.R.K is one of the closest societies in the world – so much of the rumors that emerge are clear disinformation. However, the systemic problems in the country can hardly be denied. Some conclusions can be drawn from the available information.

Despite the dismantlement of the nuclear infrastructure, the D.P.R.K can in parallel continue to modernize and build up its nuclear arsenal in alternative ways. And the uranium enrichment issue is still on the agenda, even though it is regarded through a non-traditional prism – it can be further used by the United States and its allies to pounce Pyongyang further.

Truth about the state of Kim Jong-il is unknown for sure. However, his absence at a number of events, the way of conveying information about him and his activities in the North Korean media, as well as some strange things accompanying his *visits* – all this indicates that, at present, he faces some health problems. Their gravity and his life expectance are a complete enigma and cannot be verified by an external observer. If he steps out and/or dies, the country will be led collectively for one-three years. The ruling class will be able to control the situation, but it will put off the key issues and this cannot last forever. If new floods or other similar disasters (e.g. epidemics) take place, or the attempts to pursue hard line in economy and social sphere meet the resentment, such developments (in combination or individually) may provoke quick catastrophe (in the worst-case scenario in 2009).

The society is seemingly stable, but it is only a superficial view, since the number of negative trends for the regime (such as washing-out of the information isolation, higher role of private trade, the role of foreign currency, etc.) prove the version that in the mid-term perspective (less than five years) there is a probability of sudden (for external parties) collapse. According to the media and specialized sources, this year the authorities in the D.P.R.K plan to launch the struggle against such trends. What are their chances for success? The very tightening may eventually become an impetus for the opposition.

Some social contradictions are caused by the discrepancies in official ideology and reality in the streets, economic differences among the urban and rural areas, etc. North Korea reminds a comatose patient after the road accident who has lung ventilation and a growing tumor. The



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artificial respiration cannot be cut off for the sake of surgery – the patient would die. At the same time, it is dangerous not to cure cancer – the patient would die, but later. Even if surgery is undertaken, it is not clear whether the patient would survive it. The political system of North Korea functions in a more or less sustainable manner so far, but what may happen in the foreseeable future (next five years)? What are the lessons for Russia? What should it be ready for?

Yours,
Vladimir Khrustalev

From: Georgy Toloraya
To: Vladimir Khrustalev
Subject: Re: A Comatose Patient?

Dear Vladimir!

Thank you for your letter. Over two decades the issue of the D.P.R.K's future is a point of heated debate at various conferences, in research papers and media, etc. Since the late 1980s the dominating point of view (at least, in the West) has been the near collapse of the regime. Such forecast, however, does not come true and the number of proponents of apocalyptic scenarios has already decreased. Nonetheless, the majority of politicians and analysts assume that the North Korean political system is historically doomed to failure and there is a desire to push the regime towards the collapse and ensure its *soft landing* (controllable collapse). It will be followed by the unification of Korea, i.e. the takeover of the North by the South.

You also base your conclusions on such assumption, speaking about inevitable and at the same time sudden demise of the ruling regime in the next five years. The arguments in favor of such theory are clear – chaotic anti-Socialist sentiments, money as a social value, penetration of the South Korean and Western culture and so on. The authorities also feel the threat – their response is tough, including restrictions on the market trade and repressions. Poor health of the leader is another critical factor – Kim Jong-il is a state-forming personality similar to Louis XIV with his “I am the state.”

This is all true. But do you really think that North Korea is in coma? Such opinion is shared by those who have only recently got access to the insider information and does not take into account that famine and hardships, economic inefficiency and repressions are typical of the D.P.R.K since the moment of its establishment. Evidently the 1990s were difficult times, but now an average North Korean citizen lives not much worse than 20–30 years ago (albeit there is less equality nowadays). All this is an outcome of resuscitation of economy: markets, semi-homemade production, quasiprivate service sector have changed the life standards. Traditional party and political elite is now complemented with the bourgeoisie (it is noteworthy that as a norm *new Koreans* are not well linked with the criminal community). The country develops, there is a potential for growth, although ideological bondage and security concerns of the regime hamper positive economic activities.

The future of North Korea will be determined by inherent factors that ensure submissiveness of the population for decades, despite the oppression and severe life standards. I believe that Kim Il-sung applied the traditional Confucian model of the state backed with the strong spirit of nationalism in North Korea. *Juche* speaks about the importance of self-reliance, independence, ability to live without envying anyone else. It may seem strange for us, but for the Koreans who for centuries suffered from Great Powers this was a set of understandable and shared ideals. Such feudal theocracy is a modern version of traditional oriental despotism – it is quite sustainable, it can evolve. So market economy relations will not shaken the pillars of the state, even if the Communist ideology dissolves in the national idea of sovereignty. The moment is close. But change of the ideological wind does not necessarily mean rotation of the ruling elite and the changes in the hierarchy of governance. The elite may be upgraded in natural way, while the bureaucratic system will be *repainted* and restored.

G. Toloraya

From: Vladimir Khrustalev
To: Georgy Toloraya
Subject: Legitimacy of Power

Dear Georgy Davydovich!

Let me explain why I took five years as a forecast period. The actual horizon for an unequivocal and relatively true prognosis is five years – it enables us to analyze different scenarios for another twenty years beyond this line. And afterwards there comes a period of total unpredictability. Five years is an approximate term after which uncertainty in the system starts to prevail over certainty in various types of human activities.

The major priority for the elite is to ensure the survivability of the current political regime in North Korea. However, sustainability of the regime requires a number of fundamental conditions. In the long-term perspective it is the legitimacy that determines the future of the power system. Legitimacy in North Korea is based on the Confucian culture, specific official depiction of the external world, information self-isolation, certain doctrine in the interpretation of the past and the present, and a few tools to manipulate and control the public opinion (together with the technical and spatial restrictions, such as permissions to move from one district to another, or seals on radios). The maintenance of legitimacy sometimes contradicts other demands of the state and society as complex systems that require resources for development and survival.

Hence, I cannot but agree that the role of Confucian model is fundamental, but it is quite difficult to assess its nuances and to make thorough forecasts for the future, since it is a cultural issue.

I assume that the parallels with the comatose patient are correct. What does the D.P.R.K need from historical point of view? To survive. What is necessary for survival? Modernization, security, exit from the state of self-isolation and external isolation combined with the maintenance of legitimacy (both external and internal). It makes sense to cast at least superficial glance at these mutually excluding demands to understand the inevitability of failure. The tragedy is, however, deeper – if any of them is left unsatisfied at least at the minimal level and within a certain period, this would lead to a guaranteed collapse of the Juche project.

V. Khrustalev

From: Georgy Toloraya
To: Vladimir Khrustalev
Subject: Nuclear Card

Vladimir,

Nowadays the North Korean leaders plan to solve the problem of continuity, taking into account 2012 (100 years of Kim Il-sung and 70 years of Kim Jong-il), the year when a successor should be named. I doubt that everything will go smoothly, but I am happy that some preparations for the change of command have already started. Sooner or later Kim Jong-il's political retirement would give the elite in North Korea a chance for change to the benefit of survival. It is a big question whether the new leadership will be able to undertake such efforts, especially if it comes for a short term and comprises patriarchs of ideology. But we can hope that the elite driven by the basic survival instinct will be able to form a pragmatic nucleus. These people will have appropriate respect to Juche and the legacy of the great leaders on the surface, but will slowly move the country towards economic transformation under an authoritarian (not totalitarian) regime. Such policy has already been codenamed – *building a strong and prosperous state*. The national idea a la Juche contains simple and comprehensible targets. And common North Koreans hardly welcome the idea of being hugged (and in fact, absorbed) by their Southern Korean brothers, or become a Chinese protectorate.

An indispensable condition should be external security and suppression of any attempts to undermine the regime, so the society will not become open. It is not clear yet how to combine this with the reforms. Under these circumstances, the *nuclear card* becomes crucial – it is the only guarantee against military scenarios and it helps to maintain the interest of the partners (adversaries and supporters of the regime) in stability and in prevention of chaos in the *de facto* nuclear-weapon state. Therefore, the D.P.R.K will try to preserve its nuclear arsenal to the end, or to the moment when it sees no hostile intentions on the part of its opponents and



can be sure to expect effective development assistance. How will the diplomatic process relating to this core issue go? This could be a good point of deliberations.

*Yours,
G. Toloraya*

From: Vladimir Khrustalev
To: Georgy Toloraya
Subject: Re: Nuclear Card

Dear Georgy Davydovich,

At first, one has to think about the character and sources of threats to information isolation. Nearly everything can help to ruin it! And it is not evident that the Confucian cultural code will help to reconcile external and domestic realities. This is why the Pyongyang's political project is a bogus.

Will the *nuclear card* be a guarantee? In my opinion, nuclear deterrence will trigger the beginning of the end. The 2006 nuclear tests gave the D.P.R.K a break and justification – “in order to create the security assurances, it is necessary to tighten the belts”. All right, quite logical explanation for a philistine. However, according to some experts, one of the major reasons for immunity of the North Korean authorities to corrosion and collapse is the existence of military threat, which is considered to be real by the officials, the armed forces, and the population. At present, according to some reports, the potential military challenge is not regarded as a direct peril. Hence, one can relax – “there will be no war, it makes little sense to attack us – we possess nuclear weapons.” The legitimacy of total militarization goes down; more claims to the authorities emerge and may emerge in the future. This is a strong destabilizing factor. It is not the only one, but it is important. And there are many of them.

Therefore, the window of opportunities for Pyongyang is limited and will continue to narrow down – in general, the number of variants will be few. Since we do not know the contents of their heads, Russia will have to act cautiously, pragmatically and in cool mind.

First of all, it would be necessary to initiate a broad discussion of nuclear factor in foreign and domestic policy of North Korea, since there exist many myths, misinterpretations, miscalculations and so on in the Russian expert community and in the propagandistic constructions of other parties of negotiations.

Secondly, the concept of the D.P.R.K as a threat to global and regional security is exploited by the United States and Japan as a pretext to build up their military might and change the balance of power in the region and in the world as such. The U.S. missile defense in Northeast Asia is a vivid example of such approach and there are many others.

Thirdly, the U.S. actions are retaliated by China and Russia. Thus, there is a system of complicated links which do not correct the system, but rather exacerbate negative trends in the region and on the planet. These are strategic shifts, the terms of existence in the region change. And under such circumstances, any construction of myths and external interference are quite dangerous.

Besides, in recent years much has been said about the role of nongovernmental actors in international relations. In most cases international terrorist organizations are meant. However, the tensions in late 2008 were partly caused by sending to North Korea the balloons with leaflets, while this was done contrary to the official will of Seoul by nongovernmental religious organizations. From the neutral waters...

Vladimir Khrustalev

From: Georgy Toloraya
To: Vladimir Khrustalev
Subject: Between Scylla and Charybdis

Vladimir,

Unlike many North Korean partners (except China) we know, or at least, feel and can tell the minds of our ex-Soviet allies. The older generation keeps the record of War Communism par-

adigm and there is no contradiction between legitimacy and ideology. In North Korea the idea is not to achieve the Communist utopia, but to preserve the national identity and independence (and there is no problem in neglecting external factors – North Korea is a champion in this).

Therefore, the scenario of collapse is probable, but not the most probable. The binary task before the D.P.R.K – modernization and maintenance of legitimacy – can be solved, if the second element has the priority over the first one. This provides for the relative sustainability of the Juche project, unlike the Soviet one, which ruined when the ideological constraints were loosened and the ideology ran bankrupt.

Will the North Korean leaders be able to pass between Scylla of economic and social degrading for the sake of ideological stubbornness and Charybdis of economic and social liberalization that may undermine the regime? Much will depend not only on the flexibility and insight of the ruling elite, but also on external factors.

Will the weakening of potential external military threat, as you suspect, destroy the Juche mentality? The thing is that the psychology of North Koreans does not regard as an invasion against independence only power attacks. Political and economic pressure, subversive activities, including soft penetration (your example with leaflets and tough response to them), are also considered to be serious challenges. The peril does not originate from the West only – there is a growing threat felt in Pyongyang with respect to China.

Until recently Russia was not regarded negatively due to her weakness, but intensification of our foreign policy efforts will also make Pyongyang think twice. So the elite will not allow the authorities and the population to relax, even if the military threat becomes of secondary importance. The recent reshuffles indicate that there is little tolerance to opportunism.

Therefore, the psychology of the besieged fortress, *Bastion North Korea*, will be a determining factor in the foreseeable future – even if North Korea, as it states, eventually decides to repudiate its nuclear weapons after normalization of relations with the United States. However, one has to admit that possible rapprochement with the West would be the most effective way for gradual softening of the regime and its eventual transformation into a *socialist market economy* akin to Northeast Asia.

Thus, the nuclear issue should not be regarded as a nonproliferation and stability challenge only, but also as a chance for survival of North Korea and the creation of a new system of international relations in the Far East (which would provide for greater security and development opportunities for all regional players, including the D.P.R.K).

This is a tough diplomatic challenge for Russia. Firstly, it is necessary to eliminate the nuclear proliferation threat – North Korea may be followed by Iran and a number of other state and non-state actors... Secondly, it is a matter of stability in the border region. Thirdly, the geopolitical game is under way and the stakes are high – division of power in East Asia. It is not in our interests to see the growing influence of the United States or China, or to witness increasing confrontation between them. *Status quo*, including independence of North Korea (regardless of its social organization), would help to avoid significant shifts in the balance of power detrimental to Moscow. It is important to remember that the situation on the Korean peninsula is one of a few international issues, on which we do not have substantial differences with the United States, especially with the new Democratic administration. There are even chances for cooperation here. Finally, the modernization of North Korea is a good chance for the Russian Far East to obtain additional economic bonuses.

What is the mission of Russia in the sluggish peace process – negotiations of the Six? It seems that Moscow has not yet thought about long-term objectives being complacent with the traditional idea that most of the problems will be solved at the bilateral level (between the United States and the D.P.R.K), especially with the appointment of the Obama administration. China is regulating the process, so the Kremlin assumes that very little depends on us. Perhaps, this is true with respect to the nuclear issue – it is not the most important for us and it is not the only one for us, after all. However, to pursue geopolitical goals in Asia, Russia should use the settlement of the North Korean issue as a real chance to influence the world order and the situation in the region. It is the chance that soon may be missed.

Georgy Toloraya



From: Vladimir Khrustalev
To: Georgy Toloraya
Subject: Love or Fear - What Is Better?

Dear Georgy Davydovich,

I agree with you entirely that nuclear deterrence in its Juche pattern is one of the key factors helping Pyongyang to keep calm about the U.S. decision to resort to force.

This enables the North Korean leaders to distract some resources for other tasks and to raise the efficiency of (quasi) power maneuvering used by the D.P.R.K in the course of crises (one may remember the interception and the escort of the U.S. reconnaissance aircraft over the neutral waters in 2003). As far as the talks are concerned, one has to point out that Pyongyang is skeptical about the policy of *dry-law propaganda from behind the bar*. China and Russia are nuclear-weapon states, South Korea and Japan are under the U.S. nuclear umbrella, while the D.P.R.K has no serious assurances.

Nuclear weapons are the tool of unsurpassable politico-military effectiveness, even if they cannot be fully used in practice. They have an apocalyptic reputation, so North Korea can deter the rest of the world with it. As Nicolo Machiavelli put it, "Returning to the question of being feared or loved, I come to the conclusion that, men loving according to their own will and fearing according to that of the prince, a wise prince should establish himself on that which is in his own control and not in that of others." Besides the D.P.R.K has a sad experience of breach of the Geneva Agreement by the U.S.A and the failure of the KEDO, public declaration of North Korea as a target for the U.S. nuclear weapons, belligerent speeches by Bush and his administration, etc. Under these circumstances, the concept of nuclear deterrence is beyond competition.

The D.P.R.K decommissioned its reactor – in good faith and under control, so the key source of plutonium no longer exists, just as other major facilities of its nuclear fuel cycle. Therefore, the fuel manufactured in 2005–2007 was not reprocessed, so the supposed amount of weapon-grade fissile materials available to Pyongyang is also lower. I don't think that North Korea did it voluntarily. In spring 2007 the reactor was shut down for two weeks for unknown reasons. It must have been switched off in emergency. In the course of negotiations, a number of officials argued that the D.P.R.K faced the issue of safe operation of the reactor. Thus, it may turn out that the reactor was in poor state, however, even under such dramatic circumstances, Pyongyang managed to get maximum of it. The dismantlement of facilities will also be paid for by foreign parties. So it might have been not the matter of successful negotiations and pressure, but the issue of nuclear technology. If the plutonium production has been suspended, the capacity for increasing the stockpile and the arsenal are limited, or even non-existent.

At the same time one cannot rule out the chances for the manufacture of additional fissile materials in North Korea in principle. There is a potential hidden technological capacity of production of weapon-grade uranium. Contrary to the widespread opinion, this does not require large facilities, huge energy resources and tons of raw materials. But this is true only if enriched uranium is used to reinforce the plutonium bomb and not to develop uranium implosive charges (let alone *cannon balls*).

It is known that the D.P.R.K could get access to sufficient technical information and scientific documents related to centrifugal enrichment from Pakistan. North Korea possesses technologies and facilities for the production of uranium tetrafluoride, while the centrifugal method is based on uranium hexafluoride. There is a record of uranium reprocessing, nuclear fuel fabrication and so on.

Taking into account other technological reservations and the lack of operating reactor, this resource for growth (if such decision is taken at all, which one cannot and will not be able to prove in the near future) may exhaust soon and such project, if existent, will soon reach its ceiling from the point of production. A couple of years of work and the arsenal will be upgraded, but further growth in kilotons would go extremely slowly. Let me remind you that there is no clarity about the approval of such scenario or its implementation. This would be a good pretext for endless fault-finding after all, so if any participant of the negotiation process wants it, he can always ask North Korea to prove the absence of such plans. This should be taken into consideration.

Vladimir Khrustalev

From: Georgy Toloraya
To: Vladimir Khrustalev
Subject: Tail Wags the Dog

Vladimir,

The nuclear factor is not only a core of the North Korean security, but is a focal point in the resolution of the Korean issue as such. The nuclear issue is a result of a huge inferiority complex and North Korean feeling of vulnerability. These sentiments (after the loss of the Soviet support) turned into a real paranoia, though Kim Il-sung was thinking about his own nuclear weapons nearly since the 1950s. The primary objective of the nuclear program was deterrence, assurances against surprises. And this is quite understandable.

It turned out soon (perhaps, surprisingly for Pyongyang itself) that the *nuclear card* is a powerful blackmail instrument, a diplomatic lever that makes the rest of the world take North Korea into account, puts it in the center of global politics. At the same time, Pyongyang can afford to ignore the opinion of the world public opinion without expecting any punishment, since the military solution was recognized to be unacceptable already in the early 1990s (due to the damage North Korea could inflict to its enemies) and there are no other efficient means to exert pressure on the totalitarian closed society (sanctions, etc. eventually failed). An extra bonus was the position of China (later supported by Russia), which could not afford to have extreme tensions and aggravation of the situation on the peninsula.

To a large extent, the United States and its allies are to blame for the current deadlock. At first, Washington, contrary to the opinion of experts (including Russian experts), expected prompt collapse of the D.P.R.K – this would be a natural remedy to the nuclear puzzle. So the United States was not rushing to carry out the agreements with North Korea and this was a bad lesson for Pyongyang (“we can also do the same”). Then (again in contradiction to the expert advice) Washington tried to exert pressure and use isolation and sanctions, in order to force North Korea “to behave” (what an amazing goal-setting and unprofessional policymaking!). As a result, the population of North Korea suffered and these hardships were the only outcome. The West simply forgot the lessons of the Soviet Union and China, when millions of deaths during *collectivization* and *great leap forward* did not undermine the regimes, but strengthened their belief in their own omnipotence. The same situation happened in North Korea – its leaders became sure of Western impotence and of their own might, i.e. the ability to impose and pursue the advantageous policy. The dismantlement of the used and needless reactor in Nyongbyong (at the expense of the United States and as a major concession) is a masterpiece of diplomacy indicating how the tail wags the dog.

G. Toloraya

From: Vladimir Khrustalev
To: Georgy Toloraya
Subject: Status quo

Dear Georgy Davydovich,

It is great that the reactor and the plutonium plant are not functioning. It is the key achievement. It is even better that in the mid-1990s North Korea froze the construction of 50MW and 200MW reactors and has no capacity to complete it now (and will not be able to build them from the scratch). If it was not for the 1994 agreements, the D.P.R.K could continue to process larger amount of plutonium, try to fabricate tritium, make experiments with fusion and so on. As you realize, this might be a totally different capacity, arsenal, amount of weapons – megatons, not kilotons. And nowadays North Korea would have had the arsenal comparable to Pakistan and India – this would have been a tough test for the world. So we avoided the worst-case scenario.

Besides, nuclear tests froze the situation and the drums were replaced with talks. So it is not so bad for Russia. On the other hand, the nuclear danger for the world today does not origi-



nate from North Korea, it comes from Pakistan. At least, so far. North Korean nuclear status limited the capabilities of key actors, such as China and the United States. And this is also beneficial for us. Hence, military-strategic affairs are not the priority in the near future, the matters of utmost importance are other challenges to the survival of the regime. *Status quo* is advantageous for Russia and one can see no positive alternatives. So we should fight for it. And the nuclear nonproliferation problem is caused by the very system of international relations in its current form.

V. Khrustalev

From: Georgy Toloraya
To: Vladimir Khrustalev
Subject: Re: Status quo

Dear Vladimir,

Yes, status quo is not contraindicative to Russia. However, drift towards normalization – recognition of North Korea in the West, progress in inter-Korean dialogue – may help us to earn substantial economic and political dividends. So we can rightfully state that we stand for national reconciliation of the North and the South (this is a source of allergy for China and Japan and the United States agrees to such scenario on its own terms, i.e. the process should be under control of Seoul and Washington) and for reducing tensions on the peninsula. And we cannot only state this, but also set forth our suggestions, promote our initiatives, at least, for propagandistic purposes. Unfortunately, we must have lost this ability.

G. Toloraya

From: Vladimir Khrustalev
To: Georgy Toloraya
Subject: Technology Sponsor

Georgy Davydovich,

The problem of survival for the D.P.R.K is much graver, even if we take only next five years. Contacts with the external world are necessary for the local society, but they are dangerous. There are several reasons for that and a few contradictions emerge as well. Here are the examples.

Firstly, the D.P.R.K suffers from the shortage of hard currency and has a limited export potential (it has nothing really valuable or strongly demanded on the international markets, like oil). On the other hand, North Korea is highly dependent on the external world from the point of food supplies and conventional energy sources. In general, there are no export earnings for any large-scale state investments. There is a need for direct foreign aid, but in a more visible manner (not only oil supplies for the power plants).

Secondly, despite the lack of resources, the country continues to expend a lot on defense and the military-industrial complex. And export earnings from the defense production do not pay for such investments in any significant way. This is a hole that consumes finance and the best labor force and gives nothing in exchange – neither money, nor civilian technologies.

Thirdly, North Korea finds itself under propagandistic, political and economic pressure. In other words, the D.P.R.K, like Cuba, often has to pay much more for the access to many commodities, services, technologies, and markets than any other country of the world. At the same time, external cultural and propagandistic influence is much more hazardous for North Korea than to many other anti-Western regimes. For instance, there is a *perilous* success story of South Korea. Pyongyang's own resource base is extremely weak and is not adequate for the accomplishment of many urgent tasks.

Fourthly, one has to remember that if Pyongyang does not want to become a Nepal (with missiles), it has to develop competitive export industries, train a large number of specialists in accordance with global practices and with appropriate level of skills and knowledge. It has to think about immediate future, when current low birth rates, disqualification of the industrial labor, poor school education in provinces would become detrimental for the progress of the state. To avoid this, North Korea needs money, programs, human resources... Where can all this be found, if not at the *false bottom*?

Russia has a chance here. There are no guarantees for success, but this is a serious chance (if something at all can be saved in North Korea). Russia cannot be a large-scale financial donor, it is not a direct political sponsor, but it can help North Korea to its own benefit. And there are effective solutions.

Our potential niche No. 1 is to be a technological sponsor in the energy sector. In the conditions of protracted economic crisis in North Korea the priority problem is its fuel and energy complex.

Thermal power stations in North Korea use coal. But the problems with its extraction are caused by irregular electricity supplies to mines and shortage of transport to deliver the coal to the power plants. Besides, the equipment is outdated, exhausted and prone to frequent breakage; the level of accidents is also high due to the lack of protective support systems. The quality of the coal is also going down (e.g. its calorific value).

North Korea has many large and small hydropower plants situated mainly in the north and northeast of the country. However, due to the climate, they have peak load operations (in order to preserve river water) and function with full load only during the rainy seasons (from mid-July to mid-August). Hence, their average capacity throughout the year does not exceed 30–40 percent. The majority of energy infrastructure is obsolete.

Energy production in North Korea is 1.5–2.5 times lower by volume than the amount of energy deficit (in the mid-2000s it was estimated at 30 bn kWh per annum). There are losses in the network (16–50 percent). How can such shortage be reduced? The KEDO version – a turn-key nuclear power plant – has failed. Totally. So the concept of NPP should be postponed, at least, in the foreseeable future. However, the country needs energy, and as quickly as possible, and as cheaply as possible, and in the appropriate form and with necessary amount of production. And here Russia has a trump card! We can offer a solution for their energy sector and take it out from this specific technological deadlock.

Let me give you one example.

Russia has a technology of helioaerobaric thermal power plants, has small but profitable production facilities for wind power plants, etc. These are the technologies which we already possess and such assistance would not be costly (a few pilot and extremely cheap 50kW helioaerobaric thermal power plants or wind power plants for rural areas can be built). This would expand the field for decisionmaking in economy, facilitate the supplies for agriculture, and provide electricity to small enterprises in the provinces.

Another solution (may be, in parallel) is possible participation in the modernization of existing local thermal plants, restoration of the jet production.

We also have some necessary resources and a number of competitive advantages in area of genetic engineering in agriculture. This biotechnology will help to ease the dependence on mineral fertilizers and raise the crops. This production will also be suitable for the Russian Far East, taking into account the common climate zone. Thanks to the guaranteed federal funding of this program, the amount of production of modified seed bank may be increased to the profitable level.

Marine culture in the Far East is also impressive. North Korea is famous for its experiments with the artificial ponds for breeding fish. However, there is also marine culture – a hectare of sea plantations may provide up to 300 tons of mussels, 120 tons of laminaria, or three tons of shrimps. Taking into account the shortage of arable land, this is an important factor.



Russia also has the technology of producing spirulina in greenhouses. Its growth rate and crops are five-ten times higher than those of traditional agriculture, it is rich with protein (dozens times more than soya) and requires less space for production per kilo (10–30 times less). Besides, non-arable or exhausted land can be used in the process of spirulina production as well.

There is a need for solutions, detailed plans, persistent implement, appropriate centralized funding. Will these efforts be worth the result? Or maybe these are short-sighted illusions and we have slim chances to carry on? And how can we avoid in the process of the implementation the emergence of some strategic bonuses for China in detriment to our interests?

Yours,
V. Khrustalev


From: Georgy Toloraya
To: Vladimir Khrustalev
Subject: Conventionalization of North Korea

Vladimir,

I would like to point out that foreign policy strategy aimed at transforming Russia into an energy superpower (which is called into question due to the recent Russian-Ukrainian gas crisis) has good prospects in East Asia. And the Korean peninsula is an important actor in this process. Hence, our assistance to the D.P.R.K in energy development has a broader dimension. Something has been started, but there is little progress in the construction of power grid from the North to the South or modernization of power plants constructed by the Soviet Union. Let alone the utopia of a gas pipeline across the territory of North Korea (I can't help remembering Ukraine).

One should not forget about various transportation projects, above all, the railway transit from the South to the North and to Trans-Siberian railway. This project may bring billions of profits to all the participants and will be carried out sooner or later, even though the current tensions in inter-Korean relations delay the implementation of the plans agreed in the trilateral format (*sic!*).

Cooperation in agriculture sounds promising as well. Investments here will pay back soon – even simple supplies of fertilizers (which North Korea does not receive from the South anymore) may ensure significant increase in crops. It is important, however, to ensure that foreign economic assistance (including Russian) does not preserve the obsolete structure of the *self-relying* economy, but rather contribute to the development of exports and normal economic system (i.e. market economy, which is the only model left, even if it is a regulated one). At the same time, this should not jeopardize stability – and we have to convince our North Korean partners in that.

Being realists, we have to proceed from the assumption that the collapse of the D.P.R.K is not inevitable and it is not in our national interests (let alone the interests of Koreans as a nation). We can really facilitate a favorable scenario – transformation of North Korea into a normal, *ordinary* state and provision of its external security and internal stability. This should be the conceptual basis for the Russian policy with respect to our *difficult* neighbor, which, in fact, still treats us not so badly... 

Yours,
G. Toloraya